New Yorker
19 April 1941
Page 89, 90

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hearts of zoologists. What is known as Lore, and very diverting Lore at that.

By the way, the last real penguin was killed in 1844. What *you* think are penguins aren't penguins at all but some other birds by the same name.

—CLIFTON FADIMAN

BRIEFLY NOTED

FICTION

NOT WITHOUT PERIL, by Marguerite Allis. Not just another American pioneer story but a novel of full stature, dramatic, fast-moving, and absorbing. Miss Allis takes as her main character a real woman, Jemima Sartwell, who once lived in what is now Vermont, who survived three husbands and an Indian captivity, and bore eight children. Jemima herself is perhaps over-romanticized, but the hard pioneer life she lived has force and meaning, the Indians are not always cruel and bloodthirsty savages, the speech seems authentic and the action credible. Ought to make a first-class movie, too.

ANOTHER MORNING, by Wessel Smitter. A pioneer novel of a different sort, but nonetheless real too. A few years ago the government decided to take a couple of hundred families off relief and establish them as farmers in Alaska. Mr. Smitter follows them on the uncomfortable journey and through the backbreaking labor of their first year in a strange country. They reclaim the wilderness with the help of modern hygiene and a Diesel tractor. No wild Indians this time, but plenty of mosquitoes, a winter eight months long, and other difficulties, mechanical and human, and always interesting.

IN MY FATHER'S HOUSE, by James Street. A warmhearted and touching story of the Mississippi backwoods, told by the young boy of the family, who unintentionally causes lots of trouble, including the murder of his sister's sweetheart and the death of his father, whom he deeply loves. Read it if you liked "The Yearling."

THEY WENT ON TOGETHER, by Robert Nathan. Mr. Nathan's novel is also related by a boy, a bewildered one who, with his mother and sister, joins the stream of refugees trying to keep ahead of a modern mechanical army. No particular army, apparently, and no particular country, which may be why, in spite of the affecting subject and the author's skill, the story is vague and a little flat.

MANHOLD, by Phyllis Bentley. With

The De Marcos
Paul Haakon
Josephine Houston
RETURN TO THE
Persian Room
at the Plaza
AT DINNER AND SUPPER
Dick Gasparre
and his Orchestra
Chiquito
and his Rumba Band
THE COCKTAIL HOUR
Dancing Daily and Sunday
THE PLAZA • FIFTH AVENUE AT 58th ST.

A New Type of hero is found in this novel by the Pulitzer Prize winner for poetry
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-ANCIL-THOMAS
Robert P.
Tristram Coffin's
most intriguing story.
$2.50 everywhere
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2nd Large Printing
"The inside story of how the German army of occupation behaved itself... It has an importance all its own."
—N. Y. WORLD TELEGRAM
UNDER THE IRON HEEL
$2.75
J. B. LIPPINCOTT COMPANY
By Lars Moën

page 47 col 1

Willy Ley, Prolific Science Writer, Is Dead at 62

Prophesied Travel in Space in Book Issued in 1926

Fled Germany in '35—Tested Rockets in Westchester

By WALTER SULLIVAN

Willy Ley, who helped usher in the age of rocketry and then became perhaps its chief popularizer, died yesterday morning at his home in Jackson Heights, Queens. His age was 62.

Mr. Ley, the author of more than 30 books in English and German, was a frequent lecturer as well as teacher and industrial consultant.

His death, apparently from a heart attack, came suddenly. About a week ago a medical checkup had disclosed a circulatory disorder and he was taking digitalis.

Earlier in the day, in a telephone conversation with a book publisher, Mr. Ley spoke of the possibility that he might have to follow man's first flight to the moon by television from his home, instead of from the Manned Spacecraft Center in Texas. It was a disappointing prospect, for Mr. Ley had been one of the earliest protagonists of such a flight.

He was born in Berlin in 1906 and his early studies, at the Universities of Berlin and Königsberg, were in astronomy, physics, zoology and paleontology (the study of fossils). Some of his most successful books were on exotic beasts of fact and myth.

However, in 1927 he and his German colleagues were inspired by the writings of Hermann Oberth to found the Society for Space Travel. A punctilious registrar in Breslau at first refused to permit the group to incorporate under the title Verein für Raumschiffahrt because, he said, the last word of the title (meaning "space travel") did not exist in the German language.

Collaborated on Films

Mr. Ley's first book on space travel appeared in 1926 and during that period he collaborated with Fritz Lang in several German science-fiction films, including one entitled "Frau im Mond" ("Woman in the Moon").

Among those whom he recruited into the Society for Space Travel was a young man named Werner Von Braun who ultimately became a leader in German military rocket development. After World War II, when Dr. Von Braun had begun working with the American rocket program, he and Mr. Ley collaborated on several books including "The Exploration of Mars."

As the Nazis rose to power they were determined to take over rocket research from the society. The latter, through a series of flights with primitive liquid-fueled rockets from an abandoned ammunition dump on the outskirts of Berlin, had shown that rockets could be used to circumvent provisions in the Versailles Treaty forbidding German development of artillery.

In 1935, Mr. Ley got word to Dutch and British friends that he was in trouble with the Gestapo. He had been ordered to cease writing on rocketry for foreign publications and did so, but some of his earlier articles being held in reserve by British newspapers appeared after this edict.

Willy Ley

Mr. Ley left for Britain and then was brought to the United States under the auspices of the American Interplanetary Society (which about this time changed its name to the American Rocket Society). Members of this group put up bond to permit his entry into the country.

Built Test Stand

Mr. Ley lived for half a year with G. Edward Pendray, head of the American Rocket Society, and the two men built a test stand for small rockets near Mr. Pendray's home in Crestwood, N. Y. It was in a swamp between Scarsdale and Bronxville.

Mr. Pendray recalled yesterday the alarm of neighbors at the roaring of rockets on their test stand. However Mr. Ley's activities as an experimenter gave way to concentration on writing.

He turned out a steady stream of books and articles. Interest in rocketry and space travel was low at the time and his titles ran to such subjects as "Salamanders and Other Wonders," "Dragons in Amber" and "The Lungfish, The Dodo and the Unicorn."

However when the rockets developed by his former colleagues in Germany began flying across the English Channel, there was a dramatic change. The demand for expert writing on rocketry became insatiable.

Meanwhile, Mr. Ley in 1940 joined the newspaper PM as science editor and soon met a Russian-born ballet dancer, Olga Feldman, who was writing a column on physical fitness for the newspaper. They were married in 1941.

Soon afterward, Mrs. Ley was doing research for her husband at a public library and read to him, over the phone, certain information on rockets that she had uncovered there. Someone in the next phone booth overheard transmission of this information in a Russian accent and reportedly notified the Federal Bureau of Investigation.

It took a certain amount of explaining to convince the Federal authorities that nothing untoward was going on.

In 1944 he became a United States citizen and left PM. He became further identified with space travel with such books as "Watchers of the Skies," "Conquest of Space" and "Rockets, Missiles and Men in Space." He also developed a powerful lecture style.

One close acquaintance noted yesterday that Mr. Ley's big frame and German accent conspired to give him an impressively authoritative manner. Perhaps, he suggested, that was why Mr. Ley unconsciously retained the accent, even though he became fluent in his spoken and written English.

One of those who knew him well said he was a natural lecturer, "not only on the platform, but in private."

"If you asked him a question you got a lecture," he said, adding that Mr. Ley's knowledge was "encyclopedic."

Mr. Ley enjoyed good food, good drink and good conversation and belonged to a small convivial group of writers and scholars known as the "Trap Door Spiders," who met once a month. The name, members say, is based on the practice of such spiders in closing a trap door to escape their mates.

He was a great admirer of Wagner operas and could accompany himself on the piano as he sang Wagnerian arias.

Publishing associates said yesterday that Mr. Ley had at least six books under contract. He had told Scribners that next Monday he would deliver the final section of "Man and the Moon," a major work, in preparation for five years. It deals with the role of the moon in music and literature.

Mr. Ley, one of his book editors said, was "like those 19th-century natural scientists who were up on every field of science." He had been on the faculty of Fairleigh Dickinson University for many years.

While Mr. Ley was an ardent promoter of trips to Mars and other distant bodies, his earliest passion was for the moon.

"The moon is still silvery in the night sky," he wrote in The New York Times last year, "but it is no longer unreachable."

"In 1930 I introduced a number of aeronautical engineers in Berlin to the first liquid fuel rocket they had ever seen," he said. "It stood about 5 feet tall and, even when fueled, was light enough to be lifted with one hand. It could climb about 1500 feet and was brought back by parachute.

"What, the engineers wanted to know, was the aim of all this? Eventually, I replied, rockets of this type will carry men to the moon."

Mr. Ley lived to within one month of the scheduled fulfillment of his prophecy.

Besides his widow, he is survived by two daughters, Sandra Ley and Mrs. Xenia Parker of 252 East 61st Street. Since World War II Mr. Ley had lived at 37-26 77th Street in Jackson Heights.

The funeral will take place tomorrow at 1 P.M. at the Walter B. Cooke funeral home, 1504 Third Avenue.

A. T. POLYZOIDES, COAST COLUMNIST

Ex-Foreign Affairs Writer for Los Angeles Times Dies

LOS ANGELES, June 24 (AP)—Adamanitos T. Polyzoides, retired college professor and former reporter for The New York Times, The Los Angeles Times and other newspapers, died yesterday of a brain hemorrhage. He was 83 years old.

Born in Athens, Mr. Polyzoides received a law degree from the National University of Athens in 1908. That year he arrived in the United States with his bride and he resumed a newspaper career he had started in Europe.

The New York Times sent him to Europe in 1915 to cover the war on the Balkan front. At the same time he was a correspondent for The London Central News.

After the war Mr. Polyzoides turned to lecturing on world affairs.

He helped establish the Foreign Policy Association in New York and became a contributing member of the Institute of Politics at Williamstown, Mass., and the Institute of Public Affairs at the University of Virginia.

In 1935 he became a faculty member at the University of Southern California, helping found the university's Institute of World Affairs.

From 1937 to 1960 he contributed articles to The Los Angeles Times and starting in 1942 he wrote a daily column on international affairs.

Edited Greek Daily

From 1916 to 1932, Mr. Polyzoides was chief editor of Atlantis here, the leading Greek daily in the United States, which he had joined as a reporter in 1908. In 1933 he started his own short-lived newspaper, Neon Bhma (The New Tribune), which had both Greek and English editions and began as a weekly and became a daily in 1934.

During his years here Mr. Polyzoides was a stout but distinguished six-footer with a mustache and black hair. His final column for The Los Angeles Times, in May of 1960, was a nostalgic reminiscence of his career. It ended:

"So the story of world affairs goes—a never-ending stream of human events carrying all toward new adventures and new goals—only dimly perceived and understood."

JOSEPH MATHIEU, 83, A CHURCH ARCHITECT

Joseph Mathieu, an architect who specialized in Roman Catholic churches and related religious structures, died Monday at the Methodist Hospital of Brooklyn. His age was 83. He lived at 174 Eighth Avenue, Brooklyn, and had offices at 32 Court Street.

Mr. Mathieu was president of the Brooklyn Chapter of the American Institute of Architects in 1941-42. He had also been New York member of the institute's National Committee on Historical Buildings, chairman of the Brooklyn chapter's Committee on Preservation of Historic Buildings and a council member of the Long Island Historical Society.

Britain Pays Last Respects To Earl Alexander of Tunis

WINDSOR, England, June 24 (Reuters)—A 19-gun salute was fired over this royal town today as Britain paid her last respects to Field Marshal Earl Alexander of Tunis.

Seven black horses pulled a gun carriage bearing the World War II strategist's coffin to St. George's Chapel at Windsor Castle, last resting place of many British monarchs and noblemen, for the funeral service.

Lord Alexander, who died June 16 at the age of 72, was one of the last to leave the French beaches at Dunkirk in 1940 as the Germans entered.

He later led Allied victories against the Germans and Italians in North Africa and Italy.

His coffin was draped in a Union Jack and on top rested his plumed hat, sword and baton.

Pallbearers included former Prime Minister Harold Macmillan, Admiral of the Fleet Lord Mountbatten and Gen. Lyman Lemnitzer, retiring head of the North Atlantic Treaty Organziation,

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Deaths

BAMBOSCHEK—Giuseppe, June 23, beloved husband of Carolina, former conductor of Metropolitan Opera, also formerly conductor and general manager of Philadelphia Grand Opera. Funeral from Walter B. Cooke Funeral Home, 117 West 72d St., Friday 9:30 A.M. Requiem Mass Blessed Sacrament Church, 10 A.M. Interment St. Mary's Cemetery. In lieu of flowers contributions to Heart Fund appreciated.

BAMBOSCHEK—Giuseppe. We record with deep sorrow the death of our beloved member and colleague, Giuseppe Bamboschek on June 23, 1969 in New York City.
STANLEY ADAMS, President
American Society of Composers
Authors and Publishers

BARBANELL—Rose, beloved wife of the late Hyman E., devoted mother of Sylvia Bloom, Alfred, Frances Edelstein, Blanche Cooper and Marilyn Siegel, adored grandmother of Judy, George, Billy, Lydia, Nina and Laura. Services at "Park West," 79th St. and Columbus Ave., Wednesday, June 25 at 12 noon.

BARBANELL—Rose. The Officers, Executive Committee and Members of the Bronx County Committee of the Liberal Party mourn the death of our long time loyal member and colleague. We extend our deepest sympathy to her daughter, Sylvia Bloom, our beloved county chairman, and to the members of her family.
MICHAEL J. DONTZIN, Vice Chairman.
NICHOLAS GYORY, Vice Chairman.

BENJAMIN — Gertrude, beloved wife of Abraham, devoted sister of Estelle Gootenberg, Florence Hurkin and Phoenix Alexander. Services Wednesday, June 25 at 1:30 P.M. "The Riverside" 76 St & Amsterdam Ave. "May Her Soul Be Bounded In The Bond of Eternal Life."

BIDDLE—Alice McMurtrie, on June 22, 1969 of S. Roberts Rd, Bryn Mawr, Pa., and Saunderstown, R.I. Daughter of the late George and Mary Hosack Biddle. Memorial services at St. Thomas' Church White Marsh, Pa. on Thursday, June 26 at 2 P.M. Interment private. In lieu of flowers contributions may be made to the Family Service of Philadelphia. 311 So. Juniper St., Philadelphia, Pa.

BLUM—Rae, beloved mother of Evelyn B. Koch, devoted grandmother of Susan D. Koch, and John M. Dryfoos, and great grandmother. Laid to rest on June 24, 1969.

BLUME—Hannah. Beloved mother of Mortimer E. Hirschfield and Muriel H. Dreyfuss, cherished grandmother and great-grandmother, loving sister of Milton Steinthal and Stella Steinthal. Service Thursday, June 26th at 10:15 A.M., "The Riverside," 76 St. and Amsterdam Ave.

BLUME—Hannah. Heartfelt sympathy is extended to our Veteran Members, Mortimer E. Hirschfield, son and P. C. Milton Steinthal, brother.
SIOUX LODGE #357 KNIGHTS of PYTHIAS

BLUME—Hannah. The Morton H. Steinthal Memorial Inc. mourns the loss of its beloved member and extend heartfelt sympathy to her family.
JUDITH UHRY, Secy.

BONO—Anna, on June 23, 1969, at Danbury, Conn., beloved mother of Mrs. George Lee, David, Anthony, Thomas P. Bono, also survived by 15 grandchildren. Funeral from Schaefer's Funeral Parlors, 4th Ave. at 42d St., Brooklyn, Thursday, June 26, 9:30 A.M. Requiem Mass Our Lady of Perpetual Help, R.C. Church, 10 A.M. Interment, Holy Cross Cemetery.

BRESLIN—Joseph E., on June 24, 1969, of Freeport, L.I., husband of Lillian, father of Joseph E., Jr., Robert J. and Lillian A. Randall; brother of Dennis A. Reposing at the Hungerford & Clark Funeral Home, 110 Pine St., Freeport. Requiem Mass at Our Holy Redeemer R.C. Church, Thursday, 9:30 A.M. Interment Calvary Cemetery.

BRICKEL—Rebecca. Suddenly. Beloved and devoted mother of Frances Bailenson, dear sister of Samuel Kesselman. Loving grandmother and great grandmother. Services today 2 P.M., Garlick's "Parkside," Queens Boulevard and 66th Avenue, Forest Hills.

CARNEY—Walter J., Sec/4. Reposing Williams Funeral Home, on Broadway at 232d St., Bronx, until Thursday, 9:30 A.M.

CHAPMAN—Daniel K., on June 24, 1969 at Mt. Kisco, N. Y., dear husband of Charlotte, father of Diana F. and Daniel K. Jr., brother of Edwin N. and Mrs. Thorne Sherwood. Services private. In lieu of flowers memorial gifts to No. Westchester Hospital will be appreciated.

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FADER—Josephine
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counsel to the Board of Economic Warfare from 1943 t[illegible] [illegible]d legal adviser to the

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Vol XLVIII #1
Natural History

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J. Bernhard, Dorothy
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or curiosity. Pertinent data are also given for star clusters and nebulae, and for variables.

The book includes fascinating chapters on introduction to the heavens, stars around the poles, autumn and winter skies, spring and summer skies, stars of the southern skies, planets, comets, meteors and the sun and moon.

The chapter on the moon has been greatly enlarged, and is the best that we have seen. There is a new chapter on rainbows, auroras, and other wonders. There are precession directions for plotting the paths of planets and invisible objects. Also, there is an improved and highly correct Glossary, as well as Appendices on asteroids, sidereal time, etc.

All in all, the authors are to be congratulated upon an excellent, dependable, and most useful book on astronomy for the observer, and for teachers of astronomy.

Clyde Fisher.

THE LUNGFISH AND THE UNICORN: An Excursion into Romantic Zoology

- - - - - - - - - - - by Willy Ley

Modern Age, $2.75

DINOSAURS may not be extinct, but penguins are and lungfish should be. With such paradoxes Mr. Ley beguiles the reader into a pleasant sojourn in the borderlands of zoology. For anyone who does not require that romance be amatory, the subjects of this book are really more romantic than those of most novels, and the literary quality meets the standards of fiction writing.

Mr. Ley here finds zoological romance in three broad topics: mythical animals and their possible basis, animals that have become extinct in historical times, and ancient types of animals that have not become extinct. In the first category are unicorns, giants, dragons, basilisks, and sea serpents. This section ends with the remarkable hypothesis that the "sirrush" of ancient Babylon is a dinosaur possibly still surviving in Africa. The recently extinct animals are the usual interesting lot: urus, great auk (the original penguin), ground sloth, dodo, passenger pigeon, etc. Then come the so-called living fossils, in which the recent discovery of *Latimeria,* a living fish of a group thought to have been extinct for some 60,000,000 years, takes its place. Gondwanaland is used as a peg on which to hang discussions of a number of archaic (or in some cases merely rare) animals, some of which have nothing to do with the Gondwana theory.

If the book were not so good, there would be less reason to wish that it were better. Errors of fact and of judgment occur, but these are generally unimportant and it would be quibbling to emphasize them. It is a more serious fault that evidence that might be admissible in a court of law but that is entirely inadmissible in a scientist's study, is insistently accepted by Mr. Ley, who upbraids scientists who do not suffer from the same confusion. The charm and worth of the book remain, but a few grains of salt should be sprinkled over some of its pages.

G. G. Simpson.

KUKULCAN, THE BEARDED CONQUEROR

- - - - - - - - - - by T. A. Willard

Murray & Gee, Los Angeles, $5.00

THE Maya have fascinated Mr. Willard from his youth and he has taken advantage of a brilliantly successful business career to find out more about them. In this, and several other books, he has shared with others his enthusiasm. In an era when the amateur of the arts and sciences has almost disappeared, Mr. Willard's writing has a very real place. His intense personal interest is fresher than the cold objectivity of the professional scholar or the padded casuistry of the feature writer.

Kukulcan, the Bearded Conqueror is not an academic study of the latest research on the Maya. There are no records of scientific excavation nor bibliographic delving. On the other hand, Mr. Willard tells what interested him and how two early explorers, E. H. Thompson and T. Maler, inspired him with their own almost passionate enthusiasm. Mr. Willard sees the Maya as living people, not as an example of social patterns. His book is for the reader, not the student. I wish that there were more people, like Mr. Willard, who find archaeology interesting as an avocation. *Kukulcan* is a good beginning for those who think archaeology might be entertaining, if it were not for the way in which most archaeological books are so devoid of personalized human interest.

George C. Vaillant.

"Willy
LEY

has done a real service in bringing together in one book the explorations of so many legends. He is a master of the half-world where fact and fancy meet in the realm of beasts, birds, and fishes."
—McCready Huston, *Frontiers.*

"A very interesting account of some of the mysteries of natural history . . . I enjoyed it all very much."
—John Kieran.

A fascinating study of zoological oddities which sheds new light on the process of evolution. *Ill.* $2.75.

Scientific Book Club Selection

THE
LUNGFISH
AND THE
UNICORN
An Excursion into Romantic Zoology

MODERN AGE BOOKS, 432 4th AVE., N. Y. C.

DEVELOPMENT OF THE SCIENCES,

- - - Edited by L. L. Woodruff.

Yale University Press, $3.00

THE history of science in any of its branches is a fascinating subject. It is always interesting to trace the development of our knowledge and understanding in any field. This volume is the second series of public lectures sponsored by the Yale University Chapter of the Gamma Alpha Graduate Scientific Fraternity given during 1939-40. The presentation is not technical but designed for the layman; consequently the publication is for the general reader.

The discussions are by eight well-known members of the faculty of Yale University, and comprise the fields of mathematics, astronomy, chemistry, physics, geology, biology, psychology, and medicine. They are not written in the journalese style of the hack writers who often undertake such tasks, but each is written by a specialist in his field—by one who has the broadest dependable background, impossible in the all-round scientific writer or editor. It is obvious that one person cannot be a master in eight fields.

It is now amusing to read the prophecy of the famous French mathematician, Lagrange (1736-1813) that mathematics as a field of research was nearly exhausted and that "at the universities the chairs of mathematics will sink to the undistinguished level of those, for instance, in Arabic." In times past this feeling has no doubt been shared by workers in other fields. In the nineteenth century, what physicist dreamed that we would be forced back to a semi-corpuscular theory of the nature of radiant energy? Or, that we would see the atom split? Or, that we would see the transmutation of the elements?

In these encyclopedic chapters one finds much of human interest,—in fact they consist of thumbnail biographical sketches of the great scientists who are responsible for the development of science. Many absorbing stories are incorporated in this volume.

Clyde Fisher.

THE JEWELED TRAIL

- - - - - - - - by Louis Kornitzer

Sheridan House, $2.75

SOMEWHERE in this book the author says, "This is not a treatise on gems, but a slice of gem studded autobiography." And the reader who has seen his previous books, *The Gem Trader* and *The Pearl Trader* will know what to expect in this work. A life spent in the many phases of the gem business must supply an endless number of anecdotes to be recounted in an autobiography—more dramatic and more exciting, perhaps, than most because of the high stakes for which the game is played. But otherwise the book might as well deal with coffee, spices, or jute. In it we learn little about gems and, as before, we find the lack of that scientific background, so essential to a true appreciation of our gems. Mr. Kornitzer's attitude is probably the universal approach of a successful gem

New Yorker

19 April 1941 / page 89, 90

BOOKS

Mainly Winston Churchill

THE clarion voice of Winston Churchill seems almost to reduce to inaudibility the balance of the week's publications.

"Blood, Sweat, and Tears," edited by his son, Randolph, is a kind of sequel to "While England Slept." It comprises the Prime Minister's speeches from May 5, 1938 (on the Eire Bill), to the magnificent broadcast of February 9, 1941 ("Give us the tools and we will finish the job"). Hence it includes his six, classic summaries of the war situation, as well as the address to the people of Italy, his tribute to the R.A.F., and his parliamentary addresses dealing with matters of more narrowly domestic concern.

An authoritative appraisal must be left to hands more competent than mine, but there are two general comments I should think any perceptive reader would be capable of making. The first is that these speeches, viewed now in retrospect, prove Churchill was right nine times out of ten in his judgment of the varying phases of the world crisis. The second is that much of this book is literature.

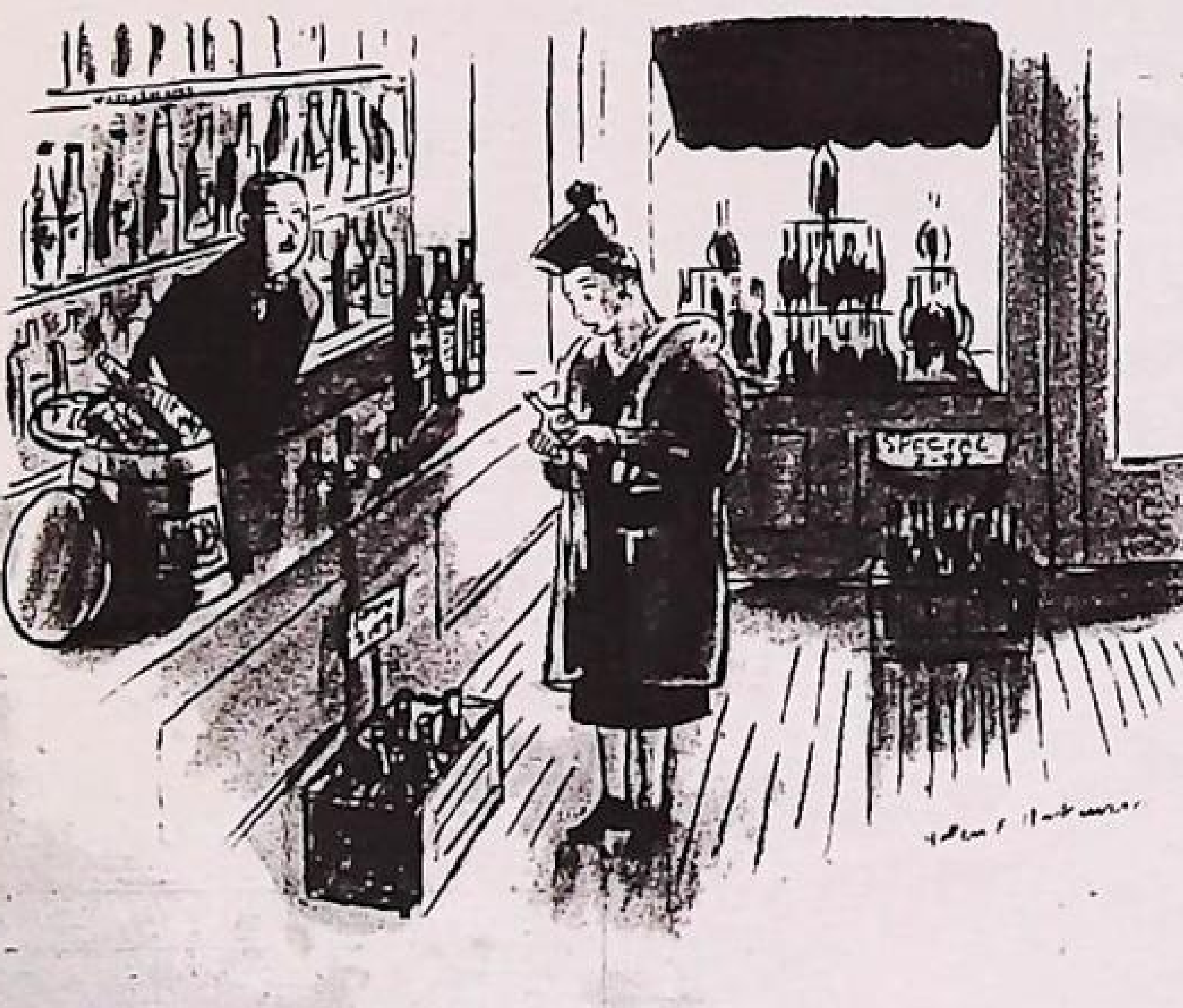
Only in his confidence in France does Churchill seem to have made a grave error in calculation, an error committed, it would appear, by everybody but Hitler, Abetz & Co. For the rest, there is virtually nothing here, whether pre- or post-September 3, 1939, that does not reveal the sombre insight of a world statesman capable of conceiving perspectives no less gigantic than those of Hitler but never allowing his imagination to affect the realism of his evaluations, whether of triumph or disaster.

As to Churchill's literary merit, I should say that he is unequalled today in his use of the grand style of Burke, many of whose cadences and climaxes he echoes or surpasses. It is forensic literature, of course, which many think a bastard art; but it is literature nonetheless. I find Churchill's printed words often more powerful than his spoken ones, probably because to our American ears he is a rather old-fashioned orator, working in a heavy parliamentary style that seems a trifle absurd to us. But I think few can read his address to the Italian people, or to the French people, or the terrific climax ("We shall fight in the fields and in the streets," and so on) of the speech on Dunkerque without realizing that in Churchill England has produced one of its greatest masters of rhetoric and exhortation.

EMILY HAHN, with whose stories of China *New Yorker* readers are familiar, has done a tri-biography, "The Soong Sisters." It should satisfy completely any curiosity you may have about the most renowned trinity of females since the Parcae. Miss Hahn is an American who has lived in China for some years. She is thus well equipped to write about the Soong girls, because they too are a product of two cultures. The father of the Soongs spent his youth and young manhood here (his American name was Charlie Jones Soong), was baptized into the Methodist Episcopal Church, and to the end of his days bore the stamp of his American training. The girls—Eling, Chingling, and Mayling—went to the Wesleyan College for Women in Georgia and are even today, in much of their opinion, decisively American. Miss Hahn is a sympathetic interpreter of this mingling (sounds like a fourth sister) of traditions.

The outlines of their story, which has almost a fairy-tale quality, are well known. Eling, the eldest, married a Y.M.C.A. worker named Kung Hsiang-hsi, who turned out to be modern China's outstanding financial and banking expert. Chingling married well too—she became Mme. Sun Yat-sen. Mayling, of course, now the most famous of the sisters, made a farsighted choice when she married Chiang Kai-shek. Their careers, obviously, are closely interwoven with the entire history of modern China. Politically, they have often been deeply divided, but the bombs of Japan have at last reunited them. They stand today as a picturesque symbol of whatever unity China has so far painfully attained.

Miss Hahn has not solved the probably insoluble problem of writing a book about the Soongs. When she concentrates on their personalities (as she does in the charming opening chapters describing their youth), she has to neglect the complex history of China. When she retells that history, she has to fit the Soong sisters in somewhat artificially, for, after all, the events are much greater than the girls themselves. Also, Miss Hahn is handicapped—this again is hardly her fault—by the fact that so much of the story—the Sian kidnapping, for example—has been recounted in other books by equally competent journalists. On the whole, however, her readable book fills its niche most acceptably.



"*Why, this is one of the things they're always drinking in Louis Bromfield!*"

THERE is something delightful about the way H. G. Wells, now seventy-five, keeps on stubbornly protecting his investment in the future, of which he has long enjoyed a sort of monopoly of prophecy. You would think the present crisis might dampen even the hottest Utopian ardor, but here is Mr. Wells, the English sky above him dark with destruction, writing an extremely cheerful, even gay book about the salvation of his pet—mankind.

"All Aboard for Ararat" is an account of a series of conversations between Noah Lammock (Mr. Wells, I believe) and God. The problem is to save mankind through a new flood and a new ark. God, as you may imagine, is less certain about how this should be done than is Noah-Wells, but between the two of them the work of salvation is well started, and so are the hares of several diverting and satirical conversations in Mr. Wells' familiar vein. How can Hitler ever expect to destroy a people capable of producing a man who will write thus in days like these?

CARE to get the latest lowdown on the sea serpent, which is probably real and not a feature editor's fancy? Would you like to learn about the unicorn? Do you know that the Cyclopes were elephants? What is a Jenny Haniver? How are you on tatzelwurms, horned snakes, geirfugls, quaggas, and wisents? Has anyone ever told you the whole story of the platypus?

I refer the curious to Willy Ley's "The Lungfish and the Unicorn," an odd book subtitled "An Excursion into Romantic Zoology." In it you will learn everything about mythical animals (which Dr. Ley demonstrates to have been not so mythical after all) like the dragon and the basilisk, about extinct beasts such as the urus and the dodo, and about certain animals which, though they should have been extinct long ago, are still doing business and rejoicing the

"Gunnar Gunnarsson

—he must comprise in himself a considerable part of Iceland's literati—writes like few literary chaps you're apt to think of, unless it be the early Knut Hamsun. His tales have a flavor, exceedingly simple and devout, of the medieval conte," says CLIFTON FADIMAN in *The New Yorker*

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RANDOM HOUSE

THE NEW REPUBLIC
26 MAY 1942 1941
PAGE 737
VOLUME 104, NUMBER 21

democracy here and now under the guise of unity, defense, etc. Have you seen the papers?

After Cloete's brooding and Dreiser's soap-box harangue, Clarence Streit's restatement of his plan for a world union of democracies seems almost like solid ground. Streit sells his idea a little too hard (he leans as heavily on the Founding Fathers to prove that we ought to tie up with Britain as Dreiser does to prove that we ought to shun her). He is up against a profound American dislike of formal political tie-ups that limit our absolute freedom of action. And his complete emphasis on a political mechanism (a Federal Union of all the world's democracies), with too little regard for the social and economic problems which would confront it, weakens his case enormously. Because in the long run, union (after this war) would be effective in maintaining world peace only to the extent that social and economic dissatisfactions could be eliminated.

But after these and a hundred other objections have been raised, Streit's plan remains the most practical proposal for some kind of international order yet made. He would have the Union (now limited to the United States and the British Commonwealth) offer peace to the Axis on the basis of the pre-Munich status quo, no reparations, no recriminations. He thinks Hitler might accept (unless today's headlines have changed his mind). If not, the Union would be forced to bring this war to a successful conclusion, after which membership would be open to any democratic state. Streit's main point right now is that the plan would be vastly strengthened by immediate adoption. In a sense it would be an answer to those who want a statement of war aims; it would at least offer a framework within which to work out a post-war order. The detailed plan of union elaborated by Streit might have to be altered at a score of points. The dominions might balk, the American people might balk, etc., etc. But there still remains the question, What do you offer in its place? To some it appears that none of the weaknesses of the plan are quite as awful to contemplate as the way things have worked out in the past twenty years. This reviewer is as well aware of the sound objections to the union idea (and some of the more capricious ones, too) as the next fellow. But a lot of those next fellows (some of our bright young realists among them) tell me that Streit is wacky and then go on to say that sure we'll have another war in ten years or so, no matter who wins now. All right, then; I like the kind of padded cell Streit is in.

MAX GISSEN

A Reader's List

FRANCE SPEAKING, by Robert de Saint Jean (Dutton, $2.50). A French journalist's diary, relating logically the decline of France from Munich to Vichy. The much-told story of political corruption, bureaucratic greed and the lack of leadership is given fresh significance through excellent quotations and new, enlightening material about the psychology of French diplomats and deputies.

A HISTORY OF FRENCH COMMERCIAL POLICIES, by Frank Arnold Haight (Macmillan, $2.50). Lucid, comprehensive account of major trends since Colbert, emphasizing developments from the Great War to the current one. Excellent sections on import quotas and on colonial commercial policies. Another volume in Carnegie Endowment's series on Commercial and Tariff History.

LIVING TREASURE, by Ivan T. Sanderson (Viking, $3.50). The author of "Animal Treasure" and "Caribbean Treasure" tells about his adventures in Jamaica, Yucatan, Haiti and the deep jungles of British Honduras. It's an exciting book about snakes, wild horses, crocodiles and dozens of other less conspicuous animals, written with gusto and scientific passion. Illustrated by the author.

THE LUNGFISH AND THE UNICORN, by Willy Ley (Modern Age, $2.75). Zoölogy with a difference. The low-down on lots of animals you'll never meet in your local zoo, presented here in a chatty, entertaining manner. Read this for the pertinent dope on the geirfugl, the sloth, the dodo and the unicorn.

DEVELOPMENT OF THE SCIENCES, Second Series, edited by L. L. Woodruff (Yale University Press, $3). Excellent popular essays in the history of science by qualified specialists on the faculty of Yale. Topics include: mathematics, astronomy, physics, chemistry, geology, biology, psychology and medicine. The material is well selected and competently organized, with particular reference to the major figures and leading concepts within each of the sciences discussed.

MAN: THE MECHANICAL MISFIT, by G. H. Estabrooks (Macmillan, $2.50). A professor of Psychology takes a look at Man—and recoils in alarm at the spectacle of his rapid deterioration, biological and sociological. The theme—with confessed acknowledgements to E. A. Hooton—is that *homo sapiens* has more brains than is good for him. The author believes, among other things, that "medicine has done the race great potential damage in controlling the germ disease,"

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ple" felt by Friends is made clear and also their abiding conviction that they have a vital mission to perform in the world. Little however is said of the American Friends Service Committee which is so widely known and so deeply trusted at home and abroad because of its work done during the last war and continuing in many fields with ever increasing effectiveness. This omission is an example of the modesty with which President Comfort has told his story.

Specially interesting to this reviewer is the author's account of the Quaker attitude towards government. "With politics as distinct from government," he tells us, "Quakers have never had much to do." It seems however permissible to question the validity of this distinction, since in a republic candidates for office must present themselves to the electorate. Had Quakers run for office even if only in their own immediate localities they might have done much to lessen the stridency of candidates and the insincerity of campaign promises and when elected to reform the government under which we must all live. The Quaker procedure for influencing government has from the beginning been to send delegations or individuals to legislators and officials to advise, to encourage, or to remonstrate. President Comfort cites many such interviews, the most interesting of which

is that between Lincoln in 1862 and Eliza P. Gurney and her companions.

That the procedure adopted by Friends makes a strong appeal to other men of good will is strikingly shown in Jules Romains's recent book, "The Seven Mysteries of Europe." In it he describes how he and his followers set themselves to exert systematic pressure on important statesmen in France and even in Germany, with the hope of preserving the peace of Europe.

Though such efforts may fail none the less the testimony borne by men and women of good will is of inestimable value, since it remains true that the world can be saved only by faith. "Just among Friends" reaffirms and strengthens our belief in "the Inner Light, the Witness in the individual heart," which George Fox, the founder of Quakerism, called "that of God in every man."

The Criminal Record

The Saturday Review's Guide to Detective Fiction

Title and Author	*Crime, Place, and Sleuth*	*Summing Up*	*Verdict*
THE SINGING WIDOW *Veronica Parker Johns* (Duell, Sloane & Pearce: $2.)	Double murder in proud poor and decadent Virginia clan unsnarled by jazz musician with help of spirited and bereaved young Floridienne.	Dark and dreadful tale of family hatred lightened by wholesome heroine and likeable ivory-tickler. Writing deserves some special encomiums.	Startling
LADY IN LILAC *Susannah Shane* (Dodd, Mead: $2)	Penniless young stage aspirant saves affluent beauty from suicide, impersonates her, and tumbles into murder. Saturnine mystery man takes over principal sleuthing.	Taking for granted certain situations that strain credibility, story's zest, suspense, and melodramatic moments put it across.	Palpitating
SIMON LASH, PRIVATE DETECTIVE *Frank Gruber* (Farrar & Rinehart: $2)	Vanished Cal. banker turns up murdered. Book-loving sleuth reluctantly handles case and uncovers several nasty kettles of fish.	Lash is pleasantly disreputable addition to tough-guy detective regiment. Plot may not baffle experts but wind-up has exhilarating touches.	Routine
THE LONGBOW MURDER *Victor Luhrs* (Norton: $2.)	Lethal arrow ends career of medieval seigneur in Chateau Gaillard. Others perish but Lionhearted Richard, no less, unravels it.	Detecting of kingly sleuth as recorded by 12th century scribe would win him bouncer job on most any homicide squad.	Quaint

Books in Brief

BOUGHT A MOUNTAIN, *Ronald Firbank, Countryman Press, $2.75.* Some seven years ago Mr. Firbank and his enchanting wife, Esmé, bought twenty-four hundred acres of Welsh mountainside, a sheep farm, with hens, hogs, and a snack-bar thrown in. This book is the casual chronicle of their activities, of the country people with whom they dealt, of the strange diseases that lie in wait for creatures in flocks and herds. It also conveys the contagious joy in life, the gay and funny things that happen along with difficult and serious ones, and the final conclusion of the author that this wild freedom is what he fights to defend.

BACK O' THE MOUNTAIN, *Margaret Flint, Dodd, Mead & Co.* $2.50. The weak, selfish woman who dominates and ruins her family is well known to fiction. But Mrs. Flint's novel of family life in rural Maine today has vitality and sound craftsmanship. Caroline Clement's husband escapes by dying and Sam, the younger son, by marrying a girl who is everything his mother is not. The elder son eventually leaves home and Caroline, refusing to live alone, plants herself as a self-invited guest in the household of Sam and Kate. The rest of the story shows how mental and moral illness can be almost as contagious as a germ disease.

MCGILLYCUDDY: AGENT, *Julia B. McGillycuddy, Stanford University Press,* $3. Dr. Valentine T. McGillycuddy was government topographer, army field and post surgeon, and Indian agent in the early Northwest. His biographer is his widow. At twenty-six he was on survey duty with the army in the dearly held sanctuary of the Sioux. His fortunes thence mingled with those of the Sioux and Northern Cheyenne. In 1879, he was agent at Pine Ridge, Dakota Territory, the reservation for 9,000 uneasy Sioux. His biography contributes another source book upon the West of Red Cloud, Crazy Horse, Sitting Bull, Crook, Custer, California Joe, and Calamity Jane.

SOLUTION OF LAST WEEK'S
DOUBLE-CROSTIC (No. 369)
H. D. LAWRENCE:
CRAVING FOR SPRING

Come quickly spring!
. . . . and vindicate us against
too much death.
Come quickly and stir the rotten
globe of the world from within.
Burst it with germination, with
world anew.
Come now, to us, your adherents,
who cannot flower from the
ice. . . .

A PRIMER OF ECONOMICS, *Stuart Chase, Random House,* $1.00. Lynd Ward has handsomely illustrated Stuart Chase's brief but valuable ABC of economics. It explains where we are going and why. Cold comfort to the harassed upper-middle class, it may send icy shivers down the backs of the rich. But to young people to whom it is addressed it will seem reasonable and reassuring. It should be put into the hands of boys and girls of high school age.

LUNG-FISH AND THE UNICORN, *Willy Ley, Modern Age Books,* $2.75. Mr. Ley calls his fascinating book an excursion into romantic zoölogy. Here the unicorn, the sea-serpent, the basilisk, and the dragon of medieval belief are in the company of those recently extinct or living survivals of past ages, the lung fish, platypus, the dodo, the giant sloth, and the okapi. The chapter on the sea-serpent is enthralling since he surveys the evidence for the existence of these eighty-foot monsters with sympathetic credulity. This book on the lunatic fringe of zoölogy is diverting and instructive. Illustrated.

THE WISDOM OF THOMAS JEFFERSON, *edited by Edward Boykin, Doubleday, Doran & Co.,* $2.50. Eight years of research through the writings, letters, and notebooks of Thomas Jefferson have produced this sound and valuable collection of Jeffersoniana. There is probably no political figure today who is more quoted and less read by the public. One is apt to forget that in an age when letter writing was a major occupation for public men, Jefferson was one of the most fluent; there was almost no intellectual occupation in which he was not versed. Included is the complete text of "The Life and Morals of Jesus of Nazareth."

THE MAN WHO STAYED IN TEXAS, *Ann Nathan and Harry I. Cohen, Whittlesey House,* $2.75. The life story of seventy-five year old Rabbi Cohen of Galveston, Texas. At eighteen, Henry Cohen, a devout young Jew, was distributing food tickets to the poor of London. A few years later as a Rabbi he had found his way to Texas, via South Africa and Jamaica. Then began his remarkable career as a preacher without religious prejudice, and as a humanitarian fighting always against poverty and wrongdoing. He has become almost a legend in the softer Texas of today.

HALF THAT GLORY, *Stanley Gray, The Macmillan Co.,* $2.50. An earnest tale of Revolutionary days in which a young man runs away from a brutal father, pirates a brig, and with the unlawful proceeds cuts a swath in England and France. Too deep an affection for the legendary Beaumarchais (who wrote the Barber of Seville), a life too involved with past memories, leads the hero into a complicated mess of love, European politics, and a growing patriotism for his native land. Love and America win, but without many cheers from the reader.

THE TELEPHONE IN A CHANGING WORLD, *M. M. Dilts, Longmans, Green & Co.,* $2.50. A concise account of the invention, development, and growth of the telephone to its present status of universal usefulness. Wholly American in invention, there are more telephones in this country than in all the rest of the world. The chapters on its place in American life and on telephone by-products are most interesting. This story of its change, from a clumsy squawking wooden box which Alexander Graham Bell demonstrated to skeptical New England audiences in 1877, to the instrument that utters words across oceans and continents and which has a legitimate union with radio, should be widely read. Notes and index.

SIREN SONG, *A. P. Herbert, Doubleday, Doran & Co.,* $1.50. A. P. Herbert is known to readers of *Punch* as England's leading humorist, most brilliant crusader, and a master of light verse. Some of his verse is gay and light-hearted, some cynical and bitter. His enemy is Germany and the Germans, though many of his poems were written before the war. This little book should be read for its expression of the spirit of embattled Britain.

A PRACTICAL GUIDE TO AMERICAN BOOK COLLECTING, *Whitman Bennett, Bennett Book Studios, Inc.,* $7.50. This book begins with John Eliot's translation of the Bible and William Hubbard's "Narrative of the Troubles with the Indians in New England" and ends with "For Whom the Bell Tolls" and "My Name is Aram." In between are about a thousand books. The choices are Mr. Bennett's. He is a practical bookman and is familiar with the collecting trends of the present and of recent years. Some of the biographical data is trivial or supererogatory—shortcomings of no moment in a conspectus whereof the chief virtue should be compactness.

INSECTS AND THEIR STORIES, *Harry Hoogstraal, Thomas Y. Crowell Co.,* $2. Of the 625,000 insects known to science Mr. Hoogstraal presents a fascinating account of the life history of sixty-four of those best known to man in this part of the world. The ant is missing but here are plenty of beetles, flies, butterflies, moths, and bugs with their odd mating habits, and handsome full page portraits, camera studies by Melvin Martinson and drawings by Dr. Carl O. Mohr. Most of them are more destructive enemies of man than any dictator. This book should be in the library of every man or woman who cultivates a garden.

H. S.

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NEW YORK TIMES, NEW YORK, NEW YORK
22 APRIL 1941
PAGE 19, Col. 1

BOOKS OF THE TIMES

By RALPH THOMPSON

WILLY LEY, late of Berlin and Koenigsberg and now of New York and the research staff of PM, has turned out an excellent and most edifying work called "The Lungfish and the Unicorn."*

* * *

It involves not only lungfish and unicorns but an array of other marvels, zoological and cryptozoological, from the mushrush of the Ishtar Gate to the basilisk, the tatzelwurm, the sea serpent and the dodo. Limulus polyphemus americanus, which all of us stumble over at least once a season while walking along the beaches of Long Island or New Jersey, is also included, as are the platypus, the hoatzin, the okapi and the three-eyed tuatara lizard of New Zealand.

For all its sea serpents and basilisks, the book is perfectly sober natural history, though natural history on the prodigious and romantic side; it is, in fact, the current choice of the Scientific Book Club. Mr. Ley himself describes it as a series of ventures along the "bypaths of zoology," which gives the general idea. The several chapters deal with creatures of three broad types—those presumably mythological, those presumably extinct and those which ought to have become extinct but for various reasons didn't.

* * *

Limulus polyphemus americanus belongs to Type III and proves to be our old seashore friend, the horseshoe crab. Most of us take *Limulus* more or less for granted and simply kick his shell out of the way when we see it. According to Mr. Ley, this is a great mistake, for *Limulus* is one of the most singular objects known to modern science. Actually he is not a crab at all; he is a freak hangover from Mesozoic times and earlier, a kind of antediluvian pre-scorpion or pre-spider. He is known to survive in only two regions of the world: along our Atlantic coast and, as *Limulus moluccanus*, in the shoal waters around the Molucca Islands.

As fossil beds show, his family flourished in the days of the dinosaur and pterodactyl, and somehow has managed to prosper and multiply during the ages intervening. He is America's oldest inhabitant by far, older than some of the rocks and millions of years older than any of the Indians. European zoologists visiting this country go to pay him their respects on the sands of Jones Beach or Cape May much as American tourists abroad used to go to see Westminster Abbey or the Mona Lisa.

Among Mr. Ley's Type II specimens is the geirfugl, or great auk, the last of which is said to have been slaughtered off Iceland in 1844. Previous to this sad event, the great auks, which stood three feet high and were totally unable to fly, had lived on both shores of the Atlantic, from Norway and Greenland south to Cape Finisterre and Florida. But since they were both edible and ignorant, man made short work of them; as early as the seventeenth century they were considered very rare, and by 1800 they were wiped out except in and about Iceland. A few skins or stuffed specimens, it seems, have been preserved, and are practically priceless. One skin is now in the American Museum of Natural History.

* * *

At least one breed of animal that had already become extinct, on the other hand, has been brought back to life by a sort of modern miracle: the aurochs, or urus, the wild ox that roamed the Hercynian Forest in the time of the Caesars. About as much has been done for the wisent, or European bison, which was almost extinguished during the first World War when Russian and German troops blasted the Polish forest of Bialowiecza, where the last sizable herd had been lurking for more than a century.

Mr. Ley's notes on these cases are specific and generally absorbing. He does equally well when he comes to unicorns, dragons and the like. They are mythological game, of course—or are they exactly mythological? The answer Mr. Ley gives is both yes and no; he shows that there certainly have been "unicorns" in real life, even if they haven't melted at the sight of a virgin, and that quite as certainly there have been "dragons," even if they haven't breathed fire and brimstone. On the score of sea serpents and such he reserves judgment, for he feels that there is nothing inherently incredible about the claim. The okapi, he points out, wasn't known to zoologists until thirty or forty years ago, and only two or three years ago a huge fish of an entirely new species was caught off the harbor of Cape Town.

* * *

A good book all through, and if Mr. Ley writes another, it ought to be as good. When he writes another, he ought to include a chapter on a topic he mentions here only in passing: the frozen mammoths found in Siberian glacial ice. There must be others who have wondered whether they are actual mammoths, whether they are still being found, and whether any one but a Siberian tribesman has ever seen one.

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*THE LUNGFISH AND THE UNICORN: An Excursion into Romantic Zoology. By Willy Ley. 305 pages. Modern Age. $2.75.

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Books Published Today

A CONSCIENTIOUS TURNCOAT, by George Thomas Palmer. (Yale University Press, $3.) The story of John M. Palmer, 1817-1900,

Books—Authors

Writing at high speed and expecting to do the job in seven days, Pierre van Paassen has a new book called "The Time Is Now" on the way. To be based on a series of

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BOOKS OF THE TIMES

By RALPH THOMPSON

WILLY LEY, late of Berlin and Koenigsberg and now of New York and the research staff of PM, has turned out an excellent and most edifying work called "The Lungfish and the Unicorn."*

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As fossil beds show, his family flourished in the days of the dinosaur and pterodactyl, and somehow has managed to prosper and multiply during the ages intervening. He is America's oldest inhabitant, by far, older than some of the rocks and millions of years older than any of the Indians. European zoologists visiting this country go to pay him their respects on the sands of Jones Beach or Cape May much as American tourists abroad used to go to see Westminster Abbey or the Mona Lisa.

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Mr. Ley's notes on these cases are specific and generally absorbing. He does equally well when he comes to unicorns, dragons and the like. They are mythological game, of course—or are they exactly mythological? The answer Mr. Ley gives is both yes and no; he shows that there certainly have been "unicorns" in real life, even if they haven't melted at the sight of a virgin, and that quite as certainly there have been "dragons," even if they haven't breathed fire and brimstone. On the score of sea serpents and such he reserves judgment, for he feels that there is nothing inherently incredible about the claim. The okapi, he points out, wasn't known to zoologists until thirty or forty years ago, and only two or three years ago a huge fish of an entirely new species was caught off the harbor of Cape Town.

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**THE LUNGFISH AND THE UNICORN: An Excursion into Romantic Zoology. By Willy Ley. 306 pages. Modern Age. $2.75.*

TIMES SIGNS GUILD PACT

Contract Covers Employes in Commercial Departments

A contract was signed yesterday

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A CONSCIENTIOUS TURNCOAT, by George Thomas Palmer. (Yale University Press, $3.) The story of John M. Palmer, 1817-1900.

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BOOKS OF THE TIMES

By RALPH THOMPSON

WILLY LEY, late of Berlin and Koenigsberg and now of New York and the research staff of PM, has turned out an excellent and most edifying work called "The Lungfish and the Unicorn."*

* * *

It involves not only lungfish and unicorns but an array of other marvels, zoological and cryptozoological, from the *mushrush* of the Ishtar Gate to the basilisk, the tatzelwurm, the sea serpent and the dodo. *Limulus polyphemus americanus*, which all of us stumble over at least once a season while walking along the beaches of Long Island or New Jersey, is also included, as are the platypus, the hoatzin, the okapi and the three-eyed tuatara lizard of New Zealand.

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Excursions Into Romantic Zoology

THE LUNGFISH AND THE UNICORN. By Willy Ley. With drawings. 305 pp. *New York: Modern Age.* $2.75.

THE unicorn roamed through the magic forests of man's fancy for hundreds of years; and it is sad for modern thought to see in his type of origin nothing more romantic than the rhinoceros. How happily, then, can we welcome the delightful implications of a surgical operation performed in 1933 by a biologist of Maine University, and look again at the references of credulous ages—if no such beast was ever born as this creature of highflown legend, well, it might have been possible to make a unicorn!

But as for the "mythical" sea-serpent—that we may assume to be no myth. We may even go as far as to debate the monster's nature and decide that it is no "serpent," not even a reptile, but a mammal. And after examining the bases for these and other baffling creatures of story we can pursue a further "excursion into romantic zoology" and find wonders among vanished beasts and prehistoric survivals and even look forward to the possibility of "new" discoveries at our own door.

"The Lungfish and the Unicorn" is a sound and irresistibly picturesque exploration of that richly inhabited borderland where dwell creatures of fable and mysterious fact: a world of amazing range and variety, dimly known to the public at large but now seen, certainly, to be vividly alluring. What were the giants of medieval legend whose bones men thought they had found? Elephants—yes, but why should an elephant's skull seem to be proof of the existence of the one-eyed Cyclops? The Basilisk of Viennese story a myth? Certainly—but what natural foundation was there for the unpleasant attributes of that misbegotten monster? Why did dragons live in caves? And—let us step boldly into the present—could there be dinosaurs in Africa?

For from legend the young zoologist who is our guide takes us to look at animals now extinct, like the dodo and the great auk (yes, but the auroch might be, so to speak, re-created), considers the recurrent tales of queer unknown creatures in such well-known habitats as Switzerland and the United States, and then brings his "excursion" to survey the enigma of "living fossils," especially in Australia and Africa. In the horseshoe crab we have a "living fossil" within sight of the towers of Manhattan, Mr. Ley reminds us. But for wonders and discussion alike we may press on to consider the lungfish and the platypus. There is a reason for the existence of such timeless survivals in Australia, and the romantic character of that reason should satisfy any searcher for stranger-than-fiction truth. But the same reason applies to Africa, "which still harbors more zoological riddles than any other continent," and may yet produce another big surprise.

From the unicorn to the lungfish and the okapi, this book holds more zoological oddities than can even be listed in a short review And every one of them has a distinct and fascinating story to tell.

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H. R.

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cal sand from hard fought Pacific islands and beachheads of Europe,

Though, at times, the epic and poetic truth and idealism of this

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Dragons, and Lambs That Grow on Trees

The Lungfish, the Dodo, and the Unicorn, by Willy Ley. (New York: Viking Press. $3.75.)

If you have never seen a vegetable goose, a triceratopsian dinosaur, a white dodo, or a live platypus, meet Willy Ley in his latest book for one of the strangest excursions into romantic zoology ever invented. And invented is the proper word—for even when this author writes a treatise on rockets and space travel (as he did a few years ago), it comes complete with instructions on how to build the required craft and how best to ensure a return trip even if your math on space navigation is a bit rusty.

* * *

Zoologists will see in the title of this latest work a symbol for zoological fact in the lungfish, another for "once upon a time" stories in that now-defunct dodo, while, of course, the unicorn stands for just plain myth. Furthermore, there is nothing about the title that says the author can't think up a few new names or beasties to suit his fancy. No doubt he has. Like Caius Plinius Secundus (A.D. 23-79), better known as "Pliny the Elder," Willy Ley can't resist telling a good yarn even if he knows there isn't a word of truth in it.

Thus, all of his sea-monster stories are suspect material; so are the escapades of mythical sirens that lure sailors to unfriendly shores; all picture-book dragons; lambs that grow on trees; even Nebuchadnezzar's sirrush, the famous dragon of the Ishtar Gate. But it's still loads of fun reading about such things.

They go to show you grandpa was a piker when he concocted that story about the tripodero, a three-legged giraffe supposed to have given inventors inspiration for three-legged chairs and camera tripods. Actually, a three-legged chair is a much more firm foundation and stronger structurally than one with four legs, but I wonder if grandpa knew it? He certainly puzzled a lot of us with his "sidehill wampus" explanation for those terraced paths that wind round and round New England hills. His sidehill wampus was supposed to be four-legged, but the legs on one side were shorter than those on the other, so the queer beast could walk comfortably round and round hilly pastures with one set of legs on one path while the others were on the path just above or below.

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But the remarkable zoo presented here isn't all fanciful—though doubtless there will be some people who will declare fervidly, "There isn't any such animal!" when they read about the lungfish, the platypus, Africa's

the world looked exactly like a duck's bill. Zoologists still don't know what to do with it categorically, so they give it special classification with the echidnas in "Monotremata" as the lowest order of living mammals.

There are any number of curiosities gathered together here that are just as true as those that are mythical are false. Everyone should be able to get the categories straight after reading this book, but if someone should miss, he can always consult that 14-volume encyclopedia-size authoritative German work that forms the standard handbooks available in every zoological library. They will tell you all about the fish with lungs, the two-toed teddybear, and the strange New Zealand kiwi—in beautiful German and Latin if you like it that way.

Herbert B. Nichols

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NEWSPAPER: THE WASHINGTON POST
LOCATION: WASHINGTON, D.C.
DATE: 21 JANUARY 1962 SUNDAY

RADIO COLUMN SPACE EXPERT WILLY LEY

Sunday Radio Programs

	WMAL (ABC) 630 FM 107.3	WRC (NBC) 980 FM 93.9	WOL (MBS) 1450 FM 98.7	WTOP (CBS) 1500 FM 96.3
6	:00 Music for Sunday :30 Music for Sun. :45 Sounds of Frm	News; Sunday Best News; Sunday Best		WTOP N's; Elder Michaux Elder Michaux Elder Michaux
7	:00 Hour of Power :15 Mormon Choir :30 Message of Israel; News	News; Sunday Best News; Sunday Best	Sign on; News Jay Perry [illegible] Hour [illegible] Hour	WTOP N's; Church of the Air WTOP News Salt Lake Tabra
8	:00 In the Balance :05 Music for Sun. :15 News; Music :30 Music for Sun.	N's; Choirs And Bells in Action Bible Study Hr Bible Study Hr	The Hymnal The Hymnal Wings of Healing Wings of Healing	News Roundup Kelly's Show with Bob Kelly Kelly's Show
9	:05 Music for Sun. :15 Garden Gate :30 News; Music for :45 Sunday; News	N's; World N's Art of Living Voice of Prophecy	Wings of Healing Wings of Healing News; Em. Soc. Jewish Heritage	WTOP News; Kelly's Show with Bob Kelly
10	:00 Broadway Melodies :30 Melodies Melodies	News; National Radio Pulpit News; Sunday Best	Radio Bible Cls Radio Bible Cls Sensible Sounds Jay Perry	CBS, WTOP N's Kelly's Show with Bob Kelly
11	:00 Sunday in Washington :30 News; Sunday :45 In Wash.; News	News; Sun. Best Farm Review Sunday Best Week at U. N.	Frank & Ernest Sensible Sounds News; Marshall Jay Perry	CBS, WTOP N's Kelly's Show with Bob Kelly
12	:00 Sunday in Wash. :15 Tom Williams :30 News; Sunday :45 Show; News	News; Family Living Eternal Light Eternal Light	Voice of Proph'y Voice of Proph'y News; Italian Melodies	CBS, WTOP N's CBS News Anal. Follow Up; Jaime Bragg
1	:00 Sunday in Washington :30 News; Sunday :45 Show; News	News; Weekend Report Lutheran Hour Lutheran Hour	Pino Cicala Italian Melodies Pino Cicala Italian Melodies	News; Bragg Jaime Bragg [illegible] Jaime Bragg
2	:00 Sunday in Washington :30 News; Sunday :45 Show; News	News; Youth Youth Forum Catholic Hour Catholic Hour	News; Doug Clark News; Sensible Sounds	CBS News Holiday Sports; Coleman Holiday
3	:00 Sunday in Washington :30 News; Sunday :45 In Washington	News; Monitor Monitor News; Monitor Monitor	News; Doug Clark News; Music Sensible Sounds	Don Richards CBS News Holiday Don Richards
4	:00 Sunday Show :15 Sunday Show :30 Sunday Show :45 Sunday Show	News; Monitor Monitor News; Monitor Monitor	News; Doug Clark News; Sensible Sounds	CBS News Holiday [illegible] Holiday
5	:00 New Sounds :15 New Sounds :30 Big Bands :45 Bands; News	News; Streeter Weather, Sports News; Monitor Monitor	News; Doug Clark News; Sensible Sounds	CBS News; Rich. Holiday; Richards Holiday Holiday
6	:00 News; Erwin :15 Canham; Sports :30 News Hour :45 News; Sports	News; [illegible] Bob Considine Meet the Press Douglas Dillon	News; Sun. Sds. Doug Clark News; Reporters RoundUp	News; Yrs Trly Johnny Dollar Suspense Suspense
7	:00 News; Trumbull :15 Bill Trumbull :30 Bill Trumbull :45 Trumbull; News	News; Monitor Monitor News; Monitor Monitor	American Melod. American Melodies American Melod.	CBS News; Cap. Cloakroom CBS News Anal. [illegible]
8	:00 Bill Trumbull :15 Show :30 Bill Trumbull :45 Show; News	News; Monitor Monitor News; Monitor Monitor	Sun. Symphony Doug Clark Sun. Symphony Sun. Symphony	New York Philharmonic [illegible]
9	:00 Bill Trumbull :15 Bill Trumbull :30 Bill Trumbull :45 Bill Trumbull	News; Monitor Monitor News; Monitor Monitor	Sun. Symphony Doug Clark Sun. Symphony Sun. Symphony	New York Philharmonic [illegible]
10	:00 Adlai Stevenson :15 Reports :30 Heartbeat :45 Theater	Hour of Decision Hour of Decision News; Sunday Symphony	Sun. Symphony Doug Clark Sun. Symphony Sun. Symphony	WTOP News [illegible]
11	:00 A Nation :15 In Prison :30 Comment :45 Morris Siegel	Sunday Symphony Sunday Symphony	News; Campbell PanAmericana News; Campbell Pan-Amer. Show	World Tonight World Tonight City Side City Side
12	:00 News; Signoff	Symphony [illegible] Sunday Evening	News; Sign Off	WTOP News [illegible]

FM Stations

WAMU-FM (88.5 mc.)—Educational Station (4:30 p. m. to 11 p. m.)
WGTB-FM (90.1 mc.)—Educational Station.
WGTS-FM (91.9 mc.)—5 p. m. to 12:15 a. m.
WRC-FM (93.9 mc.)—5:30 a. m. to 1 a. m.
WJMD (94.7 mc.)—6 a. m. to midnight.
WPGC-FM (95.5 mc.)—7 a. m. to 10 p. m.
WTOP-FM (96.3 mc.)—24 hours a day.
WASH-FM (97.1 mc.)—7 a. m. to 12:15 a. m.
WGAY-FM (99.5 mc.)—[illegible]
WOL-FM (98.7 mc.)—[illegible]
WFAN (100.3 mc.)—[illegible]
[illegible]
WHFS-FM (102.3 mc.)—[illegible]
WGMS-FM (103.5 mc.)—[illegible]
WAVA-FM (105.1 mc.)—[illegible]
WMAL-FM (107.3 mc.)—11 a. m. to midnight.

OTHER STANDARD STATIONS

WGMS—570 kc.—6 a. m. to midnight.
WPIK—730 kc.—Daylight only.*
WAVA—780 kc.—7:30 a. m. to 5:15 p. m.
WGMR—1050 kc.—Daylight only.*
WUST—1120 kc.—Daylight only.*
WPAX—1190 kc.—Daylight only.*
WWDC—1260 kc.—24 hours a day.
WEEL—1310 kc.—24 hours a day.
WOOK—1340 kc.—24 hours a day.
WEAM—1390 kc.—24 hours a day.
[illegible]
WPGC—1580 kc.—Daylight only.
WINX—1600 kc.—24 hours a day.
*Authorized to operate [illegible]

Programs listed here conform to information furnished by station at time of publication.

Late TV Information

The following information was received after the TV Channels Magazine went to press:

TODAY

12-Noon (9) City Side. Sen. Alan Bible (D-Nev.), chairman of the Senate District Committee, is the guest.

12:30 p. m. (9) Washington Conversation. John M. Bailey, chairman of the Democratic National Committee, is the guest.

3 p. m. (7) Directions '62. Eleanor Roosevelt is a special guest for a tribute to Herbert Lehman, former United States Senator and Governor of New York.

4 p. m. (7) Issues & Answers. Roswell L. Gilpatric, Deputy Secretary of Defense, is the guest.

WEDNESDAY

(If the scheduled Project Mercury launching of an American into orbit takes place, it will be covered by all three television networks.)

2:30 p. m. (9) Art Linkletter's House Party. Guest is 1960 Olympic Decathlon Champion Rafer Johnson.

10 p. m. (9) CBS Reports. "Death in the City Room" is the story of the closing of the Los Angeles Examiner and the Los Angeles Mirror.

11:30 p. m. (4) Jack Paar Show (COLOR). Singer Vic Damone visits.

SATURDAY

12:30 p. m. (4) The Big Picture. Alexander Scourby talks about the dramatic success of NATO, as part of the Military Assistance Program.

1:30 p. m. (9) Accent: Part two of "The Caretaker" with playwright Lillian Hellman, drama critic Henry Hewes and film critic Dwight McDonald.

5 p. m. (4) All Star Golf (COLOR). Art Wall Jr. vs. Bob Rosburg, filmed at the Desoto Lakes, Fla., Golf Club.

6 p. m. (4) A Moment With. Guests are Leonard Carmichael, secretary of the Smithsonian Institution, and Braj Kumar Nehru, Ambassador of India. Deena Clark introduces both.

Highlights for Today

7:05 a. m.—WTOP. Church of the Air. The Rev. Titus Cranny of New York City speaks on "Toward Christian Unity."

7:30 a. m.—WMAL. Message of Israel. A panel discusses "The Changing Role of the Family."

7:30 a. m.—WWDC. Mass for Shut-Ins. The Rev. Francis Heyden is the celebrant for services at Dahlgren Chapel, Georgetown University.

8:30 a. m. — WAVA. Family Service of Northern Virginia. Mrs. G. Mennen Williams is the guest.

10:30 a. m. — WEAM. Army Hour. A report on an anti-tank missile that can penetrate any known armor at ranges between 450 and 1600 meters and can be launched from a ground vehicle such as a jeep.

12:05 — WRC. Family Living '62. "Space Travel and the Family" is the topic. Panelists are Michael J. Vaccaro, assistant director of the Goddard Space Flight Center of the National Aeronautics and Space Administration, and Willy Ley, writer, and lecturer on rockets and space.

12:05 p. m.—WAVA. Northern Virginia Meets the Nation. Prospects for 1962 business are discussed.

12:30 p. m. — WRC. Eternal Light. "The Man Who Knew Lincoln" is by Virginia Mazer. It is the story of an immigrant boy, Edward Rosewater, who became the War Department telegrapher to whom President Lincoln entrusted the dispatching of the Emmancipation Proclamation.

12:30 p. m.—WAVA. Inquiry. An examination of "Juvenile Delinquency — Actual or Statistical?"

1:30 p. m.—WASH-FM. French Theater. Sartre's "No Exit" and Ionesco's "The Bald Soprano" are performed by a French theatrical troupe which is coming to Washington on Monday and Tuesday.

2:30 p. m. — WRC. Catholic Hour. "Christian Friendship" is the topic for noted English Benedictine writer Dom Hubert Van Zeller. This is the third of four programs on "The Inner Search."

3 p. m. — WRC. Monitor. A visit to the Jolly Farmer Pub in England, where 401 varieties of sandwiches are on the menu.

5 p. m.—WRC. Monitor. The only helicopter stewardess in the world, Fern Roberts, discusses the prospects for her work becoming a new occupation for others.

5:05 p. m. — WGMS. Stereo Showcase. An interview with Hurst Anderson, President of American University.

6:10 p. m. — WTOP. Johnny Dollar. Johnny tries to prevent an outbreak of arson at a factory in "Terrible Torch."

6:30 p. m. — WRC. Meet the Press. Secretary of the Treasurer Douglas Dillon is the guest. Panelists are James Reston of the New York Times, Vermont Royster of the Wall Street Journal, John Chancellor of NBC News and Lawrence E. Spivak.

6:35 p. m.—WTOP. Suspense. "2461" is the title of a satire about a future time in which man is employed by machines.

7 p. m.—WAMU-FM. Musical Instruments. "The Flute" is the instrument for Loui Sanler and Jean-Pierre Rampal.

7:05 p. m. — WTOP. Capitol Cloakroom. Guest is Sen. Mike Mansfield (D-Mont.), Senate Majority Leader.

8 p. m.—WAMU-FM. Diplomacy in Evolution. "Canada's Role in Diplomacy" is the topic.

8:05 p. m. — WTOP. New York Philharmonic. Thomas Schippers in the guest conductor for works by Verdi, Prokofieff, Strauss and Samuel Barber. Pianist Gina Bachauer is the soloist.

11:30 p. m. — WTOP. City Side. Sen. Alan Bible (D-Nev.), chairman of the Senate District Committee, is the guest.

Radio Music for Today

9 a. m.—WASH-FM. Monteverdi: Vespers of 1610.

9 a. m. — WMAL-FM. Bach: Toccata and Fugue; Buxtehude: Cantata; Mozart: Vesperae Solennes; Handel: "Messiah," Part III.

11 a. m.—WMAL-FM. Rossini: Barber Overture; Vivaldi: Oboe Concerto; Schumann: Adagio and Allegro; Sibelius; Symphony No. 5.

11:30 a. m.—WASH-FM. Dvorak: Requiem.

12:30 p. m.—WGMS. Purcell: Trumpet Symphony; Schubert: Symphony No. 8; Liszt: Malediction.

2:05 p. m. — WGMS. Moussorgsky: Khovantschina Prelude; Kirchner: Sinfonia; Sibelius: Symphony No. 5; Rachmaninoff; Piano Concerto No. 2.

2:06 p. m.—WASH-FM. Schoenberg: Variations on a Recitative; Messiaen: The Celestial Banquet.

3 p. m.—WMAL-FM. Corelli: Oboe Concerto; Mozart: Symphony No. 41; Rossini: William Tell Ballet; Beethoven: Piano Concerto No. 5; Delius: First Cuckoo in Spring; Sibelius: Pohjola's Daughter.

3:06 p. m.—WASH-FM. Gounod: Faust, Acts. I, II and III.

4:30 p. m.—WHFS. Bach: St. John Passion, Part III.

5 p. m.—WGMS. Rimsky-Korsakoff: Tsar Saltan Suite; Bartok: Violin Concerto No. 1.

5:15 p. m.—WASH-FM. Phillidor: Carmen Seculare.

8 p. m. — WGMS. *Barbara Troxell, soprano, sings from National Gallery: Songs by Schubert and Wolf.

8 p. m. — WMAL-FM. Albinoni: Obe Concerto; Mozart: Haffner Serenade; Borodin: Symphony No. 2; Dvorak: Scherzo Capriccioso.

8:30 p. m.—WHFS. Verdi: La Forza del Destino.

11 p. m.—WGMS. Honegger: Symphony No. 2; Chausson: Symphony.

12:01 a. m. — WMAL-FM. Haydn: Divertimento; Brahms: Cello Sonata No. 2; Hindemith: String Trio No. 1.

*Live broadcast.

The Amateurs' Promptbook

Mt. Vernon Players Opening a Long Run

THE MOUNT VERNON Players, ready with their second production of this Silver Anniversary season, will open an 11-performance run of "A Majority of One" Thursday. The Leonard Spigelgass comedy will be staged at 8:30 each evening except Sunday through Feb. 3, with a matinee at 2:30 p. m. next Saturday. All performances are presented in the group's Undercroft auditorium at the Mount Vernon Place Methodist Church, 900 Massachusetts ave. nw. For reservations, call District 7-1484.

Playing the leading roles in director W. Thomas Littleton's cast are Jane Seaman and Arthur Wentz. Supporting roles will be handled by Jill Landon, Bob Fri, Doris Rudder, John Barbetta, Bill Brinkley, Dave Blakeslee, Carmen Hazen, Fred Carson, Tom Kochery, Marjorie MacEwen, Kathleen Swenson, Maria Hering and Jean Keppler.

FINAL AUDITIONS for the Harmony House production of "The Boy Friend" will be held from 3:30 to 5:30 p. m. today at the YWCA, 17th and K sts. nw. The musical spoof of the Roaring Twenties will be presented in April.

Singers, dancers, makeup artists, stage crew members and administrative help are needed by this new group that hopes to establish a permanent lyric theater here.

TRYOUTS are scheduled today and next Sunday for the Kaycee Kapers of 1962, musical show of Edward Douglass White Council, Knights of Columbus, Arlington. Director Pete Suto will be auditioning singers, dancers, actors and specialty acts from 1 to 6 p. m. both Sundays at the Council Home, 5115 Little Falls rd., Arlington.

"AN INSPECTOR CALLS" will be presented by St. Margaret's Players at 8:30 p. m. Friday and Saturday. The mystery drama will be staged in the parish hall of St. Margaret's Church, Connecticut ave. and Bancroft pl. nw.

Director Raynor Clark's cast is composed of Chuck Roberts as the Inspector, supported by John Hall, Bruce Bryan, Sallie Flickinger, Jacqualine Amabel Neads, Elaine Darr and Archie Flickinger.

CURRENTLY among the busiest of the city's little theater directors is W. Thomas Littleton. Regularly with the Mount Vernon Players, Littleton has added to his duty the Theater Lobby's current production of "Summer and Smoke." The Tennessee Williams drama has begun a four-weekend run at the alley playhouse, where it can be see at 8:30 Fridays, Saturdays and Sundays.

The cast includes Dan Rubenstein, Grace Ogden, Larry Gleason, Jo Carpenter, Mary Gochnauer, Fabienne Filson, John Beresford, William Seabrooke, Carol Bluford, Dave Newman, Laura Work, James Polo, Mike Feller and Donald Schecter.

THE MUSICAL comedy staged by the Sisterhood of Montgomery County Jewish Community, Inc., will wind up a run at 8:30 tonight at the Center, 2901 East-West hwy., Chevy Chase. Proceeds from this original revue will be used for improvements to the synagogue-center building.

THE LITTLE THEATER of Alexandria, now operating in its new playhouse at Wolfe and S. St. Asaph sts. in Alexandria, will open a run of "Two Blind Mice" there Feb. 2. The satiric comedy on Washington bureaucrats will continue through Feb. 10 with performances at 8:30 nightly except Sunday and Monday. A 3 p. m. matinee Feb. 4 has been added to the schedule.

THE CHANCEL Players of the Bethesda Council of Churches will hold tryouts for their Lenten play at 3 p. m. today in the Church House of the Bethesda Presbyterian Church, 7811 Clarendon rd. Ghelderode's "The Women at the Tomb" will be the play, to be presented in as many area churches on three Sundays in March.

Radio Highlights of the Week

MONDAY

12:15 p. m.—WRC. Patty Cavin Show. James Frawley, [illegible]ban Darling, Tom Aldredge and Ted Flicker, performers in the Shoreham's new cabaret revue "The Premise," are the guests.

2:05 p. m.—WGMS. Symphonic Matinee. Walton's Scapino, Comedy Overture, d'Indy's Symphony on a French Mountain Air, and Ravel's "Bolero."

2:30 p. m.—WTOP. Personal Story. Norman Rockwell is guest for the week.

8 p. m.—WAMU-FM. Gallery Tour. Peter Gingesten, Prof. of Art History, Pace College, discusses art in the New York City area.

8 p. m.—WOL. Broadway Showtime. "Gentlemen Prefer Blondes" is the featured album.

10 p. m.—WHFS-FM. Sounds of Jazz (Stereo). Oscar Peterson and Ella Fitzgerald are featured.

TUESDAY

5:05 p. m.—WGMS. Stereo Showcase. Blanche Thebom of the Metropolitan Opera Company is interviewed during intermission. She talks about the Metropolitan's auditions of young singers.

7 p. m.—WGAY. Gaslight Serenade. Robert Farnom's Orchestra plays selections from the album "Something To Remember You By."

8 p. m.—WMAL. Felix Grant. Jimmy Rowles, Joe Williams, Les Spann, June Christy and Al Grey are featured.

9:06 p. m.—WASH-FM. QXR Concert Hall. Mozart's violin concerto No. 4 in D; Bartok's Rhapsody No. 1 for piano and orchestra.

WEDNESDAY

7:15 p. m.—WWDC. Tris Coffin. Rep. J. T. Rutherford (D-Texas) speaks on "How To Fight Political Extremists."

8:06 p. m.—WASH-FM. Symphony Hall. Falla's Three Cornered Hat Suite No. 1. Sibelius' Violin concerto in D minor.

8:30 p. m.—WRC. Democracy in America. "Where Could I Be Better Off?" is one of 14 dramatizations of American democratic life based on Alexis de Tocqueville's early 19th Century observations.

9:05 p. m.—WGMS. Special Presentation. Bach's Mass in B minor with Saramae Endich, Adele Addison, Florence Kopleff, Mallory Walker, Ara Berberian, Robert Shaw Chorale and Orchestra.

THURSDAY

12:15 p. m.—WRC. Patty Cavin Show. British actress Barbara Jefford, leading lady of the Old Vic Company, is among the guests.

7:30 p. m.—WHFS-FM. Emphasis On Fi (Stereo). Gershwin's "Rhapsody in Blue."

8:05 p. m.—WGMS. Guest Artist with Paul Hume. Rita Streich, soprano, in selections from works by Mozart, Schubert and Wolf.

8:30 p. m.—WAMU-FM. World of the Conductor. "The Conductor As a Recording Artist" with Leopold Stokowski.

FRIDAY

8:30 p. m.—WHFS-FM. Stereo Concert Time. Strauss's "Blue Danube;" Schubert's Symphony No. 8, Weber's "Invitation To The Dance;" Strauss's "Graduation Ball."

8:35 p. m.—WOL. Broadway Showtime. Don Ameche and Elaine Stritch in "Goldilocks."

10:30 p. m.—WASH-FM. Great Names in Music. Khatchaturian's "Excerpts from Gayne;" R. Strauss's "Till Eulenspiegel."

SATURDAY

1 p. m.—WTOP. Metropolitan Opera. "Gotterdaemmerung" (The Twilight of the Gods) by Richard Wagner features Birgit Nilsson in the role of Bruennhilde.

7:05 p. m.—WWDC. Report to the people. District Commissioner John B. Duncan is interviewed.

Answers to Puzzle, Pg. 6

Woman Tortured by Agonizing ITCH

"I nearly itched to death 7½ years. Then I found a new wonder creme. Now I'm happy," writes Mrs. P. Ramsey of L.A. Calif. Here's blessed relief from tortures of vaginal itch, rectal itch, chafing, rash and eczema with an amazing new scientific formula called LANACANE. This fast-acting medicated creme kills harmful bacteria germs while it soothes raw, irritated and inflamed skin. Stops scratching—so speeds healing. Don't suffer! Get LANACANE at druggists.

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SUNDAY SPORTS SPECTACULAR

LOS ANGELES INVITATIONAL

IN HONOR OF THE CENTENNIAL CELEBRATION

LOOK AT AMERICA

presents

THE UNION AND THE CONFEDERACY

INTRODUCED BY

Senator B. Everett Jordan

7:00 P. M.

ON

WTTG - Channel 5

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A Television Presentation of Richard Bales' arrangement of Music from the

Washington Post, D.C.
4 Sept 1960

Today's Radio Log

	WMAL (ABC) AM 630 FM 107.3	WRC (NBC) AM 980 FM 93.9	WOL (MBS) AM 1450 FM 98.7	WTOP (CBS) AM 1500 FM 96.3
6 :00				WTOP News; Elder
:15				Michaux
:30				Elder Micraux
:45				Elder Micraux
7 :00	Music	News	Sign On	WTOP News; Salt
:15	for a	Sunday Best	News; Jay Perri	Lake Tabernacle
:30	Sunday	News	Protestant Hour	Kelly's Show
:45	Morning	Sunday Best	Protestant Hour	Bob Kelly
8 :00	Music	N's; Choirs of Amer.	The Hymnal	CBS World News;
:15	for a	Faith in Action	The Hymnal	Kelly's Show
:30	Sunday	Bible Study Hour	Assemblies of God	With
:45	Morning	Dr. Barnhouse	Assemblies of God	Bob Kelly
9 :00	Headlines; Music	News; World News	Wings of Healing	CBS News; Kelly's
:15	Over the Garden	Art of Living	Wings of Healing	Show
:30	Gate; Sunday	Voice of	Sensible Sounds	with
:45	in Washington	Prophecy	Jewish Heritage	Bob Kelly
10 :00	News; Broadway	News; National	Radio Bible Class	CBS News;
:15	Melodies	Radio Pulpit	Radio Bible Class	Kelly's Show
:30	News; Broadway	News; Sunday	Sensible Sounds	With
:45	Melodies; News	Best	Jay Perri	Bob Kelly
11 :00	Sunday in	News	Frank and Ernest	CBS News; Kelly's
:15	Washington	Sunday Best	Sensible Sounds	Show
:30	News; Sunday in	News	News; Marshall	with
:45	Washington; News	Sunday Best	Jay Perri	Bob Kelly
12 :00	Sunday Show	News; Sunday Best	Voice of Prophecy	WTOP News
:15	Sunday Show	This Week at U. N.	Voice of Prophecy	Howard K. Smith
:30	Sunday Show	The Eternal	Italian Melodies	Capitol Cloakroom
:45	Sun. Show; News	Light	Pino Cicala	Capitol Cloakroom
1 :00	Sunday Show	News; Family	Italian Melodies	CBS News; Eddie
:15	Sunday Show	Living '60	Italian Melodies	Gallaher
:30	News; Music	The Lutheran Hour	News	Eddie Gallaher
:45	Sunday Show	The Lutheran Hour	Italian Melodies	Baseball
2 :00	Sunday Show	Sunday Best	Baseball	Baseball
:15	Sunday Show	Sunday Best	New York	Baseball
:30	N's; Sunday Show	Catholic Hour	vs.	Baseball
:45	Sun. Show; News	Catholic Hour	Baltimore	Baseball
3 :00	Sunday Show	News; Monitor	Baseball	Baseball
:15	Sunday Show	Monitor	Baseball	Washington
:30	Sports; Sunday	Monitor	Baseball	vs.
:45	Show; News	Monitor	Baseball	Boston
4 :00	Sunday Show	News; Monitor	Baseball	Baseball
:15	Sunday Show	Monitor	Baseball	Baseball
:30	News; Music	Monitor	News	Holiday
:45	Sun. Show; News	Monitor	Sensible Sounds	Jaime Bragg
5 :00	Issues in the News	News; Monitor	News	CBS News; Johnny
:15	Sunday Show	Monitor	Sensible Sounds	Dollar
:30	Sunday Show	Monitor	News	Suspense
:45	Sunday Show	Monitor	Doug Clark	Suspense
6 :00	Monday Headlines	News; Monitor	News	CBS News; Have
:15	Sunday Show	Bob Considine	Sensible Sounds	Gun Will Travel
:30	Sunday Show	Meet The Press	News; Reporter's	Gunsmoke
:45	Sunday Show	James P. Mitchell	Roundup	Gunsmoke
7 :00	Pilgrimage	News; Monitor	Athenian	CBS News & Sports
:15	Pilgrimage; News	Monitor	Melodies	Mitch Miller
:30	Engineering News	Monitor	Athenian	Mitch Miller
:45	Engineering News	Monitor	Melodies	Kingston Trio
8 :00	Erwin Canham	News; Monitor	Sunday Symphony	WTOP Ns; Murrow
:15	Virgil Pinkley	Monitor	Doug Clark	Background
:30	George Sokolsky	News; Monitor	Sunday Symphony	WTOP News; Inv.
:45	White House; N's	Monitor	Sunday Symphony	To Learning
9 :00	O'rseas Assignm't	News; Monitor	Sunday Symphony	CBS News; Dial
:15	Sunday Show	Monitor	Doug Clark	On the Arts
:30	Nation in Prison	Monitor	Sunday Symphony	World Music
:45	In the Balance	Monitor	Sunday Symphony	Festivals
10 :00	Hour of Power	Hour of Decision	Sunday Symphony	World Music
:15	National Guard	Hour of Decision	Doug Clark	Festivals
:30	Heartbeat Theater	Symphony for	Sunday Symphony	World Music
:45	Heartbeat Theater	a Sunday	Sunday Symphony	Festivals
11 :00	News; College	Evening	News; Hillman	World Tonight
:15	News Conference	Symphony	Pan American	World Tonight
:30	Marines Show	for a	News; Ford	City Side
:45	Sunday Show	Sunday Evening	Doug Clark	City Side
12 :00	The Music Room	Symphony for	News; Sign Off	Devotions;
:15	- Easy Listening	a Sunday		Sign Off
:20	Until	Evening		
:45	1:45 a. m.	Symphony		

AM Stations

WGMS—570 KC—6:00 a. m. to midnight.
WPIK—730 KC—Daylight only.
WARL—780 KC—Daylight only.
WQMR 1050 KC Daylight only.
WUST—1120 KC—Daylight only.
WFAX—1220 KC—Daylight only.
WWDC—1260 KC—24 hours a day.
WEEL—1310 KC—24 hours a day.
WOOK—1340 KC—24 hours a day.
WEAM—1390 KC—24 hours a day.
WDON—1540 KC—Daylight only.
WPGC—1580 KC—Daylight only.
WINX—1600 KC—24 hours a day.

FM Stations

WGTS-FM—(91.9 mc.)—7 a. m. to 10:15 p. m.
WRC-FM—(93.9 mc.)—6:30 a. m. to 1 a. m.
WJMD—94.7 mc.—6 a. m. to midnight.
WPGC-FM—(95.5 mc.)—10 a. m. to 4 p. m.
WTOP-FM—(96.3 mc.)—6:30 a. m. to midnight.
WASH-FM—(97.1 mc.)—6 a. m. to 12:15 a. m.
WOL-FM—(98.7 mc.)—7:30 a. m. to 12:05 a. m.
WGAY-FM—(99.5 mc.)—6 a. m. to 6 p. m.
WWDC-FM—(101.1 mc.)—24 hours a day.
WFAN—(100.3 mc.)—[illegible] a. m. to midnight.
WGMS—(103.5 mc.)—6:05 a. m. to midnight.
WARL-FM—(105.1 mc.)—6:30 a. m. to 7 p. m.
WMAL-FM—(107.3 mc.)—6 a. m. to midnight.
*—Authorized to operate Sunup to Sundown.

Choice Radio Music Today

7 a. m.—WASH-FM. Borodin: Prince Igor Overture; Bizet: Carmen Suite; Tschaikowsky: Violin Concerto; Granados: Spanish Dances.

8:05 a. m.—WGMS. Dall'Abaco: Trio Sonata; Albinoni: Oboe Concerto; Schubert: German Dances; Gretry: Ballet Suite.

9:05 a. m.—WGMS. Bach: C Minor Fantasia; Dupre: Carillon; Vierne: Symphony No. 2, Allegro; Franck: Violin Sonata.

10:05 a. m.—WGMS. Haydn: Trumpet Concerto; Beethoven: Piano Concerto No. 4.

1 p. m.—WASH-FM. Schubert: Overture in C; Charpentier: Impressions of Italy.

[illegible] p. m.—WGMS. Robertson: Passacaglia; Haydn: Symphony No. 94; Roussel: Bacchus et Ariane, Suite No. 2; Brahms: Piano Concerto No. 2.

4:05 p. m.—WGMS. Delibes: Sylvia.

6 p. m.—WASH-FM. Clarke: Trumpet Voluntary; Goldmark: Rustic Wedding Symphony.

8 p. m.—WGMS. Vivaldi: Concerto Grosso; Bach; Chaconne; Brahms: German Requiem.

10 p. m.—WGMS. Handel: Coronation Anthem: Zadok the Priest; Boccherini; Cello Concerto; Mozart: Divertimento No. 5.

11 p. m.—WASH-FM. Handel: Alexanderfest Concerto; Liszt: Totentanz.

11:05 p. m.—WGMS. Bruckner: Symphony No. 4.

Eugene Ormandy, celebrating his 25th year as music director of the Philadelphia Orchestra, is the conductor for a series of concerts broadcast over WGMS on Sundays (2:05 p. m.). Ormandy is interviewed during the intermission.

Today's Radio Highlights

7:30 a. m.—WWDC. Mass for Shut-Ins: The Rev. Daniel Power, S. J., is the celebrant. Services originate at Georgetown University's Dahlgren Chapel.

10:30 a. m.—WEAM. The Army Hour: From the Aberdeen, Md., Proving Ground comes a report on the Army's investigation of water vapor distribution.

11 a. m.—WQMR. Music in the Air: "The Best of Romberg and Friml" by Dino Martinelli's Orchestra includes "Donkey Serenade," "Desert Song," "Rose Marie" and "Softly As In A Morning Sunrise."

12:30 p. m.—WRC. Eternal Light: Mark Van Doren and Maurice Samuel engage in the 13th of 14 dialogues on the Book of Psalms. They discuss the Psalms of praise and debate whether they show the results of painstaking labor which marks much other great literature.

12:35 p. m.—WOL. Italian Melodies: Pino Cicala presents songs by Renato Carosone, Tonina Torrielli and Peppino di Capri.

1:05 p. m.—WRC. Family Living '60: "Space Travel and the Family" is discussed by rocket expert Willy Ley and Herbert Grosch, former president of the American Rocket Society.

1:55 p. m.—WTOP. Baseball: Washington vs. Boston Red Sox.

1:55 p. m.—WOL. Baseball: Baltimore vs. New York Yankees.

2:30 p. m.—WRC. Catholic Hour: "Community Life" is the topic for John Cogley of the executive staff of the Fund for the Republic.

6:30 p. m.—WTOP. Gunsmoke: Marshal Matt Dillon rids a town of a crooked sheriff. However, the sheriff's girl friend insists on accompanying Dillon on a trip back to Dodge City.

6:30 p. m.—WRC. Meet the Press: Secretary of Labor James P. Mitchell answers questions posed by a panel of reporters.

7:05 p. m.—WDON & WASH-FM. World Affairs Seminar: "Congress and Foreign Policy" is the topic for Samuel E. Burr of American University and Elbert M. Byrd Jr. of the University of Maryland. Abraham M. Hirsch is moderator.

7:30 p. m.—WMAL. Engineering News Report: Gordon R. Tatum of the Vitro Laboratories discusses advanced weaponry projects.

8:35 p. m.—WTOP. Invitation to Learning: Discussion of Nathaniel Hawthorne's "The Scarlet Letter." This is a celebrated novel about the superstitious Puritan community of early Boston.

9:05 p. m.—WTOP. Dialogue on the Arts: "History as an Art" is the topic. Panelists are John T. Hall, professor of American history at the University of Kentucky; Bryce W. Shoemaker, author, lecturer and historian, and James Hill.

9:30 p. m.—WTOP. World Music Festivals: A portion of Act I and all of Act II of Richard Strauss' opera "Der Rosenkavalier." James Fassett is the producer and commentator.

9:30 p. m. — WWDC. District Roundtable: John R. Searles Jr., executive director of the Redevelopment Land Agency, talks about redevelopment in the District of Columbia.

On Radio

Highlights Of the Week

MONDAY

12:55 p. m. — WOL & WTOP. Baseball: Washington vs. Baltimore, two games.

3 p. m. — WGMS. Special Presentation: Canning's "Fantasy on a Hymn by Justin Morgan"; and Bales' "The American Revolution" (stereophonic sound).

9 p. m.—WWDC. Labor Day Speech: Paul R. Ornburn of the Union Label and Service Trades (AFL-CIO).

9:30 p. m.—WRC. Labor Day Speech: William F. Schnitzler, secretary-treasurer of the AFL-CIO.

10:45 p. m.—WTOP. Labor Day Speech: Walter Reuther, president of the United Auto Workers (AFL-CIO).

12:01 a. m. — WWDC. Music 'til Dawn: Tschaikowsky's Symphony No. 6 ("Pathetique"); Strauss' "Der Rosenkavalier" Suite; Vaughn-Williams' "Fantasia on a Theme by Thomas Tallis."

TUESDAY

9:05 a. m. — WTOP. Arthur Godfrey: Miriam Makeba, a young singer from the Union of South Africa, joins singers Johnny Nash and Frankie Crockett.

12:05 p. m. — WWDC. Lunch with Bob: Featured album is "Mavis Rivers Sings 'The Simple Life.'"

6 p. m.—WASH-FM. In the Concert Hall: Berlioz' "Roman Carnival" Overture; Prokofieff's "Cinderella" Ballet Music; Ravel's "Daphnis & Chloe" Suite No. 2.

8:30 p. m.—WGMS. Prague Spring Festival 1960: The Czech Philharmonic under Andre Cluytens plays Schumann's Symphony No. 4 in D Minor; Janacek's "Sinfonietta," opus 60.

WEDNESDAY

12:15 p. m.—WRC. Capital By-Line: Clifton E. Olmstead of George Washington University discusses his new book, "History of Religion in the United States."

7:55 p. m.—WOL. Baseball: Baltimore vs. Cleveland.

8:05 p. m.—WGMS. Opera House: Glinka's "A Life for the Czar" (complete).

9:55 p. m.—WTOP. Baseball: Washington vs. Kansas City.

THURSDAY

7:05 p. m. — WGMS. Symphony Hall: Dvorak's "Carnival" Overture, opus 92: Mendelssohn's Piano Concerto No. 2 in D Minor; Ravel's "Rapsodie Espagnole."

7:55 p. m.—WOL. Baseball: Baltimore vs. Cleveland.

9:55 p. m. WTOP. Baseball: Washington vs. Kansas City.

FRIDAY

11 a. m.—WGMS. Orchestra Hall: Tschaikowsky's "The Storm," opus 76; Liszt's Piano Concerto No. 2 in A; Bayer's "The Doll Fairy," ballet suite.

7:55 p. m.—WTOP. Baseball: Washington vs. Cleveland.

8:55 p. m.—WOL. Baseball: Baltimore vs. Chicago White Sox.

10:05 p. m.—WRC. The National Purpose: Albert Wohlstetter, national defense specialist for the Rand Corp., speaks.

SATURDAY

1:05 p. m.—WGMS. Boston Pops Concert: Arthur Fiedler is the conductor and Eugene List is the pianist for a Gershwin Festival. Selections include "An American in Paris," "Rhapsody in Blue" and "Strike Up the Band."

1:55 p. m.—WTOP. Baseball: Washington vs. Cleveland.

2:25 p. m.—WOL. Baseball: Baltimore vs. Chicago.

7:05 p. m.—WOL. Italian Holiday: A musical tour of Agrigento, produced in cooperation with the Italian Radio-TV System.

7:05 p. m.—WWDC. Reports to the People: Metropolitan Police Chief Robert V. Murray is a guest.

Washington Post, D.C.

24 June 1956 Sunday
page E6, col 3

or-in-Chief of the American forces,
the Presidency.
t is in every schoolchild's history
ut Stetson goes on to muse over the
fate that the mode of life to which
on was born, which public duties so
d him, and to which he so thankfully
was brought to an end by the inde-
he won for America and the democ-
lid most to establish. Stetson says,
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eventually overcoming this challenge.

He is especially concerned also about our relationship to Asian and African nationalism—an epochal development which he has discussed, with constructive suggestions, in other books.

While sharing to the hilt Bowles' anxieties about the world situation, I doubt very much that it will "give birth here in America to a new dominant majority grouping under new leadership and with a makeup which may differ significantly from that of the present majority."

First, it seems to me that there has been something in the nature of a national consensus for a decade on the gravity of the challenge and on readiness to cope with it. It was developed under Truman with the indispensable help of such men as Arthur Vandenberg and Paul Hoffman and has been carried forward by Mr. Eisenhower. Recent shifts in Soviet policy have necessarily evoked reconsideration of ways and means, attended by debate and a tendency to relax but not, so far as I can see, by even the beginnings of a new political alignment.

Secondly, foreign policy has never been a dominant factor in American politics except in

of America's best-known naturalists, and the essays which comprise this book were found in his Connecticut home after his death in 1948.

Pinfeathers From Pegasus

ONE WOULD THINK that at this time of year, when the book business tends to follow the commerce in mittens, ice skates and hot buttered rum into seasonal desuetude, the publishers would try a little air conditioning by putting forth their volumes on Antarctic exploration, whaling in the Bering Strait and hunting the Abominable Snowman. But no! These are all reserved for the winter catalogues.

• • •

IN OUR RECENT acquisitions for review are books about big game hunting on the African plains, explorations of equatorial islands in the Pacific, archeological quests in the deserts of Asia Minor and similar addenda to Dante's "Inferno." We beg the indulgence of the public, the booksellers and the publishers for putting these aside for the nonce, not that it makes any difference. The chilliest book we found in the mail was **THE EXPLORATION OF MARS** by Willy Ley and Wernher von Braun, the German rocketeers (Viking Press, N. Y. $4.95). No pseudo-science fairy tale, the books brings out goose bumps because it is so matter-of-factly written, so (to us, anyhow) scientifically accurate in the engineering details given, that one finds oneself in agreement with the authors that it is just a matter of a few million dollars and a few years of practical experiment which separates us from the interplanetary age. And what's so chilling about that? Well, you know what it will mean. The Arab League, the Cypriots and the Communist nations will bring charges of colonialism against the United States. There'll be fights in Congress whether Mars should be admitted to the Union as a state. Oil will be discovered, and who shall exploit it, private enterprise or Government? The Navy will dispute the Air Force claim that Mars is wholly within the fly-boys' province of defense, citing the famous Martian canals as evidence of naval responsibility. All the troubles we have with us today will be aggravated. Let well enough alone, say we.

• • •

THE CHANGING UNIVERSE: The Story of the New Astronomy (Random House, 243 pp. $4.75) is a more comforting book to read, perhaps because it is the more baffling. It is the account by John Pfeiffer of the discovery in 1936, and the subsequent intense study in which the physicists of Harvard University have taken a lead, of radio "signals" from outer space. (When Pfeiffer says outer space he means "outer" — farther out than the most powerful telescopes can reach.) England and Australia are somewhat ahead of this country in the apparatus of study, "radio telescopes," and both Norway and Sweden are getting there. The ultimate objective is to be able to translate the electronic sounds into visibility; to convert the mysterious impulses to television, so to speak. Then we will be able to see farther than we are able to look, which sounds somewhat bughouse to be sure, but which is very likely to become fact before Willy Ley's Martian Express takes off on its two-year round trip up yonder.

• • •

INCIDENTALLY, none of the outer-space signals has been translated to read "Use Poima-Coil, the only hair starch containing genuine Glamorine," so it is deemed impossible that the dit-da-dits emanate from an intelligent anthropoid source.

• • •

WE PICKED UP **TOMORROW'S FOOD** by James Rorty and Dr. N. Philip Norman (Devin-Adair, N. Y. 297 pp. $3.95), expecting another treatise on plankton stew and seaweed salad come the day of overpopulation and underproduction. Not so! It's all about what we are going to eat when we rebel against the kind of stuff the commercial food faddists, it says here, are forcing us to stuff into our mouths. The authors grow exceedingly vexed at the Nation's processors who extract a dozen natural vitamins while converting wheat to flour and then add two or three chemical substitutes to make

that the Nation's intelligentsia will gather around the barbecue pit instead of the parlor lamp. But for rainy Sundays, a few fictional tidbits are offered.

Susan Ertz's **THE CHARMED CIRCLE** (Harper's) is the latest of her seemingly never-ending stream of gentle, readable novels. The "charmed circle" of the title is the Prentiss family, as invertedly voracious as quicksand, as migratory as a flock of passenger pigeons and of a type which is now as extinct. The Prentiss family is a conscious work of art, loving, self-sufficient to the point of withdrawal and close to the point of suffocation, with each member sacrificing his own personality and person to the family portrait. Miss Ertz's account of them is both entertaining and frightening in a quiet way.

PEMMICAN by Vardis Fisher (Doubleday) is a hardy novel of early 19th century rivalry between the Hudson's Bay Co. and the North Westers for trappers' furs. David MacDonald, a young Scotsman, is the hero of a Hudson Bay trading post. His problems are involved with the struggle of the Hudson Bay Co. to obtain adequate pemmican—dried meat prepared by the Indians and necessary for a trader's survival. He also meets trouble through his desire to tame a beautiful white girl who thinks herself Indian and characteristically behaves more Indian than white. The two plots, sketched on the background of wild western Canada, make this book an exciting one.

THERE HAMP WAS living at peace with his wife and three youngsters and asking nothing except brotherhood from his fellow man, content with grubbing a lean living from the dry Texas soil. But the Korean war came and some of Hamp's neighbors concluded that he and his family must go. Hamp's wife, unfortunately, was born in Russia.

This slender situation generates the movement of Sikes Johnson's **THE HOPE OF REFUGE** (Little, Brown). Johnson tells his simple tale simply, always building it, ever heightening the drama. truly, Hamp finds no real refuge until the last page—and that a refuge he had not wanted but was willing to accept.

Johnson has produced a well written first novel, one made with care and feeling. One hopes he will broaden his scope now without changing his approach.

HOLLYWOOD or one of the TV drama shows ought to get a copy of Edward Grierson's **THE SECOND MAN** (Knopf). A young woman lawyer fights to save her client from hanging for murder; there's love interest, picturesque scenes in England, a chase, courtroom drama, warm writing and a lot of that recent fad, psychology. Very enjoyable both as novel and as suspense.

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THE WASHINGTON POST and TIMES HERALD
Tuesday, August 9, 1955

First Step Into Space Hardest

(Last of a Series)

Past and Future

By Willy Ley

Some sciences began with a more or less accidental discovery and progressed from there. The original discovery was tested and checked, additional discoveries were made and when enough evidence had accumulated a theory to explain the observed facts was constructed.

Rocket research progressed from the other end. In this case theory came first. During the last year of the first World War the American physicist, Prof. Robert H. Goddard, wrote a memorandum on rocket theory which was published in 1920 by the Smithsonian Institution.

At the same time, the German mathematician, Prof. Hermann Oberth, wrote another treatise on rocket theory. It was not only far more technical than Goddard's but also embraced a much larger scope.

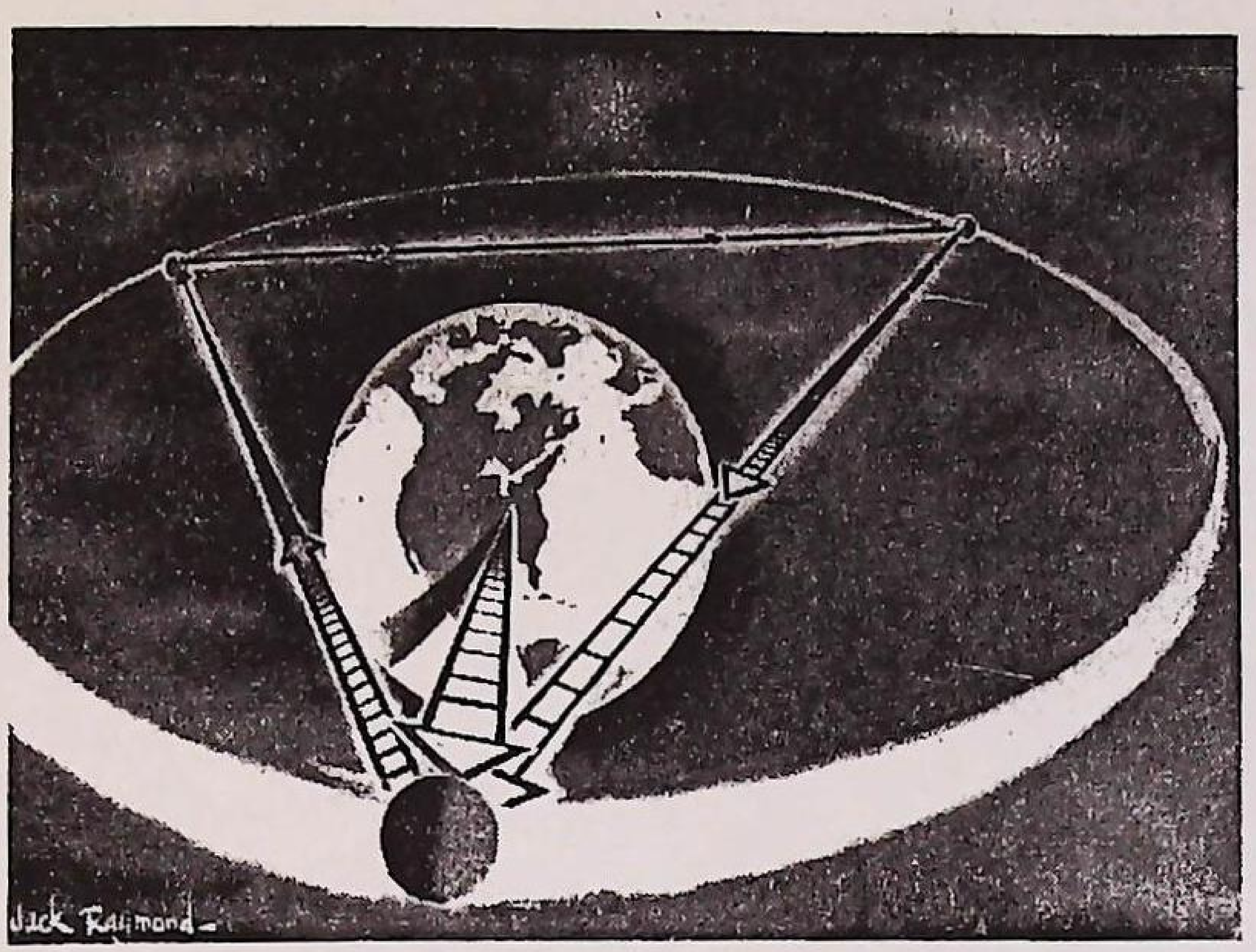
Goddard had gone as far as to investigate the possibility of a rocket shot to the moon, unmanned of course, while Oberth took in the whole field of space travel. His book was published for the first time in Munich in 1923 and readers who had enough staying power to wade through the dense underbrush of Oberth's equations could find a theory of the artificial satellite on almost the last page of the book.

Basis of Modern Research

All modern rocket research is based ultimately on these two works. By 1928 a kind of "program" had been formulated which said that after a number of purely experimental rockets there would be rockets built for the exploration of the upper atmosphere.

Then there would be rockets capable of traveling over long distances, to be used either as mail carriers or for military purposes. After that there would be rockets going to high altitudes with people, or at least a pilot, aboard. These piloted rockets would ultimately go into space and would be used to build a manned space station.

Actual progress has followed the 1928 outline with but two exceptions. The first is that long range rockets have not been used as mail carriers so far and it now appears likely that there will be mail-carrying missiles one day, but that they will not be rocket propelled. The other exception is that nobody thought of an unmanned artificial satellite in 1928. That idea is only about 10 years old and originated during the second World War.



Three satellites placed around the earth in the same orbit—each linked with the other and with the ground—can be used as TV and shortwave radio relay stations.

24 Hours to Circle Globe

One of the first suggestions made with regard to unmanned satellites was to use them as relay stations for short wave radio and television. If you put an artificial satellite in an orbit over the equator 22,300 miles from the ground it will need 24 hours to go around the earth once.

Since the earth turns at the same rate the satellite would seem to be suspended over one point of the equator. If three such satellites were spaced around the earth in the same orbit, each linked with the ground and with each other, one could have worldwide coverage without the need for any relay stations on the ground.

Within a few years engineering will have progressed to the point where this actually can be done. Whether it will be done will not be a matter of engineering but of cost accounting and profitability.

Otherwise older ideas still stand.

After a manned rocketship has reached space a manned space station will be built, probably at a height of 1075 miles where it will need precisely two hours to go around the earth once.

This manned space station will be a structure of many jobs. It would be an observatory from which astronomers can search the sky unhampered by any atmosphere.

Watch Cloud Patterns

It would be a place from which meteorologists watch the cloud patterns forming on the earth below to forecast weather on a global scale and possibly weeks in advance. It could be a military observation post.

It could be a research laboratory where important discoveries could be made.

If we continue to push a space research program after the firing of the first artificial satellite we can have such a manned space station in about 10 years.

With the completion of the manned space station the long range goal of space travel will have been very nearly accomplished because that first step into space will be the most difficult portion of the whole task.

To break away from the earth completely requires a velocity of 7 miles per second.

A spaceship which has arrived at the space station and moves alongside the station will have a velocity of 4.4 miles per second.

To leave the earth completely it will only have to make up the difference in speed, namely 2.6 miles per second. It is interesting but true—and, of course, it sounds incredible—that it costs more fuel to go from the ground to the space station 1075 miles above than it does to go from the space station to the moon which is 239,000 miles away.

The moon actually will be the first goal of a trip into space from the vicinity of the station. But the first trip to the moon will be without landing. The rocket ship will merely leave the vicinity of the space station, go to the moon, circle it (cameras clicking and movie cameras busily whirring most of the time) and return to the neighborhood of the station, which it will reach 10 days after departure.

This could be done even with present day fuel some five year after completion of the space station. To attempt to look farther into the future than that would be futile for nobody can tell what else will be invented during the 15 years between the first artificial satellite and the first trip around the moon.

Democratic Cruise

The National Capital Young Democratic Club will sponsor an all day Chesapeake Bay cruise on August 21 on a chartered sailing schooner. Reservations must be made by Wednesday.

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Earth Satellite Forecast in '31

By Jean White
Staff Reporter

President Eisenhower's announcement of plans to send a man-made, earth-circling moon into space by 1957-58 must have sounded vaguely familiar to David Lasser.

On Page 259 of "The Conquest of Space," by the same David Lasser, there are these words:

"Perhaps by 1950 the brilliant project of Hermann Oberth (an Austrian scientist) for a station in space may be interesting the world-wide attention of engineers. The proposal of Oberth to build an artifical satellite of the earth, if found feasible, may provide the mental and physical stepping-stone from our conquest of the earth to that of the solar system."

The time was 1931, and young David Lasser was taking a glimpse into the future in the last chapter of his book. Ten days ago the headlines finally caught up to him with the President's announcement.

In 1931, Lasser, who lives at 1847 47th pl. nw., spent his weekends on the sands of Staten Island to shoot off home-made rockets with other members of the American Interplanetary Society.

They'd lug out their small experimental jobs fashioned in small machine shops and home basements along with containers of liquid oxygen.

"We would erect a little stand," Lasser remembers. "Then we would light a long fuse and duck behind some barriers. Sometimes the rocket would shoot off 50 feet or so. Sometimes not at all."

Staff Photo

DAVID LASSER
. . . with his "Conquest"

They were temperamental rockets in that day, absolutely unpredictable. Sometimes they would go straight and then shoot off horizontially over the water. Other times they would go up—and then plunge straight down into the sand.

Lasser, whose enthusiasm for rocketry sparkles through a natural diffidence, came out of Massachusetts Institute of Technology to edit a magazine called Science Wonder Stories from 1929 to 1933. Now some of the stories—including the space satellite—have passed from the realm of science fiction to reality.

During the depression years, he turned to "terrestrial matters," which seemed "more pressing" than making a trip to the moon or Mars. He came back to earth and went into union work. He now is research director for IUE-CIO.

But he still looks back on those days on Staten Island with nostalgia.

In 1930 Lasser and 11 others organized into a society with quite an ambitious title—the American Interplanetary Society (now toned down to the American Rocket Society).

"We were the enthusiasts trying to get things off the ground, in interest at least (their rockets never went more than 200 feet in the air)," the union official explained.

In his book, Lasser wrote of atomic energy, leaving "the immediate and presently practicable for the realms of the speculative."

"It was kind of a dream at that time," he mused yesterday. "I'm astounded that we have progressed so fast."

He also wrote of rocket plane flights from America to Europe and use of rocketry in warfare.

As for that trip to the moon, he hasn't made his reservation yet.

"But I think we old-timers should have first chance," he added.

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Ike Goes to Chu

GETTYSBURG, Pa., Aug. 7 (UP)—President Eisenhower today went to Gettysburg Presbyterian Church with Maj. Walter Tkach, assistant White House physician, despite oppressive heat inside the small building.

It got so warm several men shed their coats. The President kept his on.

Mrs. Eisenhower remained at the 150-year-old farm house she and the President have renovated on the edge of the historic Civil War battlefield.

The Rev. Robert M. Hunt, guest preacher, preached about the development of Christianity and freedom of worship.

The President returned after church to his farm where he will remain until he takes off for a work-
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Snowball in A

1st Satellite Cycle Will Reveal Much

(Fourth of a Series)

What Good Are Satellites?

By Willy Ley

After the first artificial satellite has run its life cycle of several hundred or several thousand hours in space a great many different scientists will have learned a great many different things.

They will know more about cosmic rays and about cosmic dust.

They will know more about the earth's magnetic field, and the density of the atmosphere 200 miles up.

They will have learned just what the sun's rays, completely unshielded by any atmosphere, will do to a man-made structure.

They will know the precise thickness and mass of the equatorial bulge of the earth. They will even have established the precise distance between continents.

Present-day measurements of the distance from, say, Newfoundland to Ireland are likely to be off by a thousand feet or so because one cannot triangulate across water. But with an object of known speed and course overhead, such a distance can be established with great precision.

This might be of great scientific interest and it certainly does not sound warlike but what good does it do for the average man? There are several answers.

All Facts Worth Knowing

The first one is that every fact is worth knowing. One can never tell how it will reflect on our daily life.

Some time ago chemists scratched their heads and performed endless experiments trying to understand the nature of glass a little better than they did then. One result of this work was pyrex.

At another time other chemists began to wonder about the structure of the molecules in plastics. Nothing can sound more remote from daily life. But one of the results of these studies was nylon.

Another answer is that the average man may not fly a jet fighter coast to coast in 3¼ hours, but that it is still a satisfying feeling to live at a time when such things can be and are done.

In the case of the artificial satellite there is still another answer.

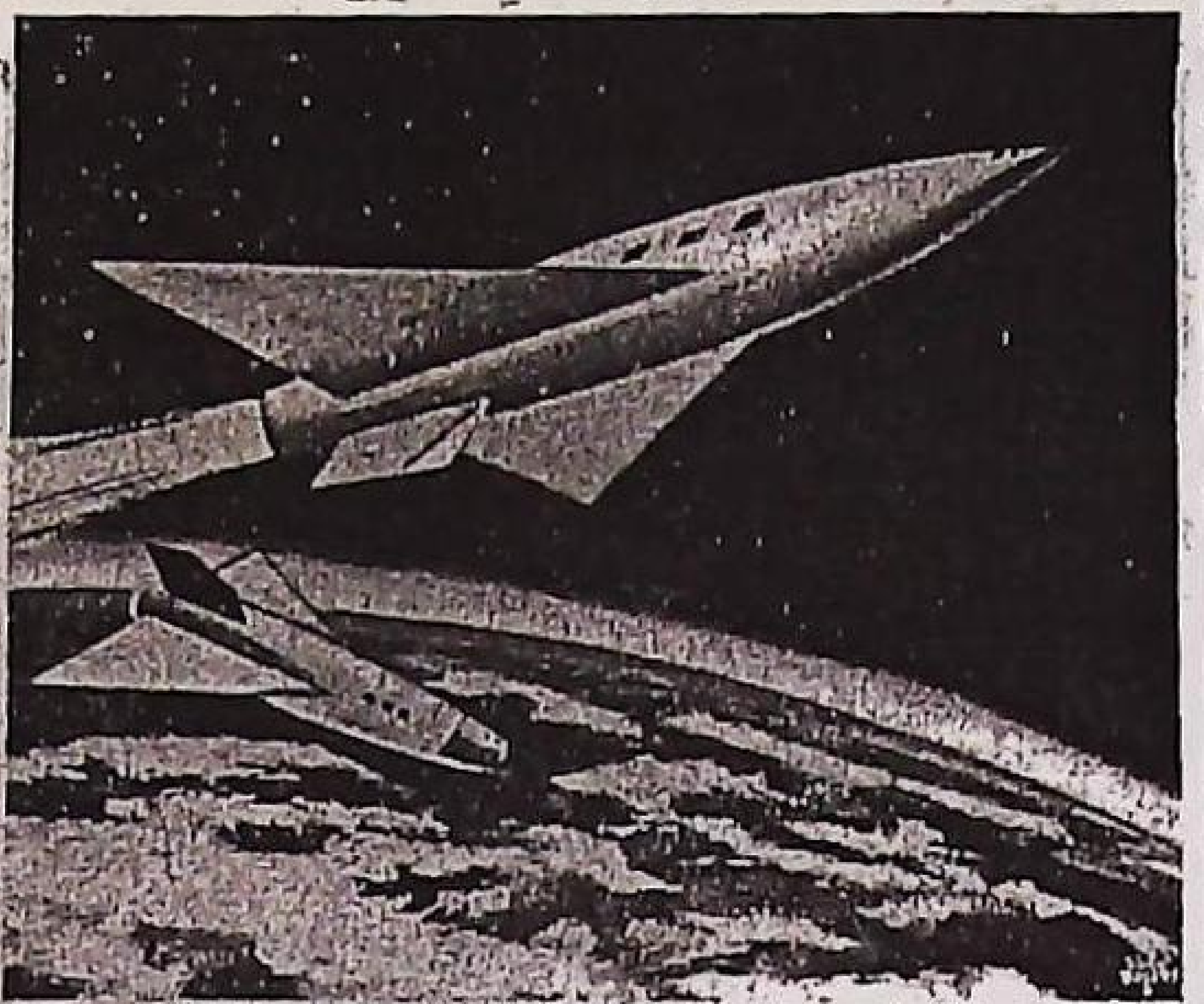
It opens the door to space.

It is one of the many preludes to space travel, just as was the first functioning liquid-fuel rocket motor, the first liquid fuel rocket that lifted itself off the ground, the first rocket which attained an altitude of a hundred miles.

For in time the unmanned artificial satellite will be followed by a manned rocket ship and the manned rocket ship will be followed by a manned station in space.

One Case in Detail

Let's look at just one case in small detail. About a year ago an engineer team published the idea of a rocket-powered transcontinental or intercontinental airliner. It would fly from Los Angeles to New York or from New York to London in about 1½ hours. It might even do it at a price which a business man who is really pressed for time can afford.



Studies obtained from America's artificial satellite are expected to contribute to the construction of aircraft which will span the continent in 90 minutes. This drawing shows a transcontinental plane being brought to its required altitude by a manned booster plane, which later returns to the takeoff field.

But such a rocket-propelled airliner could not really be built now. In the course of its trip it would leave the atmosphere and the designing engineer would want to know how much it would heat up in daytime, or cool off at night, in space in one hour.

He would be even more eager to know how much it heats up from skin friction when it reenters the atmosphere. He would want to know how many dust particles would strike it during that hour. If the number should be very small, this might be neglected entirely. If it is large, something can be done about it with a double skin. The question is whether a double skin would be needed. It has weight, and weight costs fuel.

Questions Now Unanswerable

Nobody can answer such questions now, but all the answers will be in after the first satellite has burned up in the upper atmosphere.

If, after the information has been deciphered and digested, such a transcontinental rocket line is actually built, it will be a two-stage ship. The large carrier plane will lift it off the ground and into the stratosphere and provide the carried rocket liner with a good dose of speed. It will then land while the other plane goes on under power to land some 3000 miles from home base after 90 minutes of flight, most of it unpowered.

Any good-sized rocket fired from that "upper" plane while en route will be another artificial satellite, if more are needed. And if that whole two-stage rocket liner were placed on top of a still larger rocket (which would become a new first stage) the top stage of the rocket liner could take an orbital path and become a "manned satellite."

Again the temporary manned satellite would mainly have the purpose of finding out a few things.

This time the question would no longer concern space but rather man in space. Whether a man could stand the speeds involved is no problem at all. Man has no organ that enables him to sense speed.

When you speed along a highway you feel the bumps in the road, the vibrations of the engine, the airstream passing by. But you cannot feel speed directly. In an airplane most of the sensations misunderstood for "speed" disappear. We cannot even feel speed. But we can feel changes in speed, acceleration.

Even though no man has ever taken a ride in a V-2 or Viking rocket, we know that he could stand the acceleration of these rockets if he did. It so happens that accelerations can be imitated in large centrifuges and volunteers had themselves tested. From these tests we know that any person in good health can stand much higher accelerations, and for a longer time, than will ever actually occur in a rocket ship.

What we cannot test on the ground, and therefore do not know well, is how people will react against the opposite to acceleration, namely complete weightlessness. The body is not likely to revolt, but the psychological effects are simply not known yet.

Medical men who have studied these problems have come to opposite conclusions. It may be that this is a way of separating optimists from pessimists in the medical profession, but as far as the reactions of the actual flyer are concerned we'll simply have to wait. If weightlessness proves too difficult for too many people the engineer still is able to do things so that it can be almost avoided.

TUESDAY—Past and Future.

Looking with Luke

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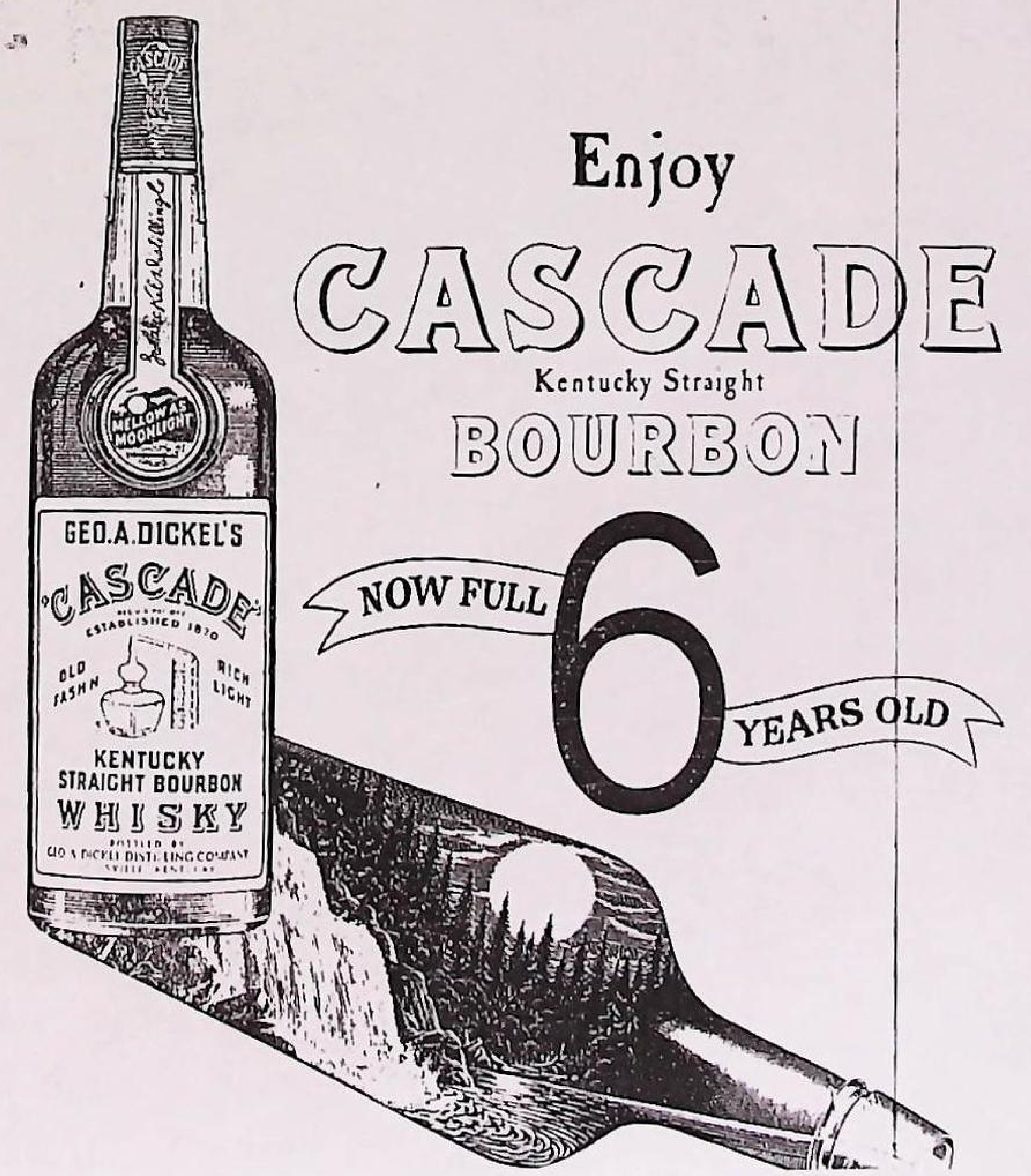

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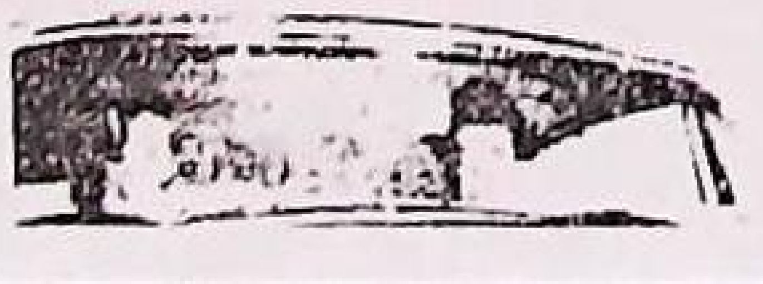


Satellite to 'Report' to Earth

By Willy Ley

There are three conditions any artificial satellite must fulfill, no matter of what shape, size or design.

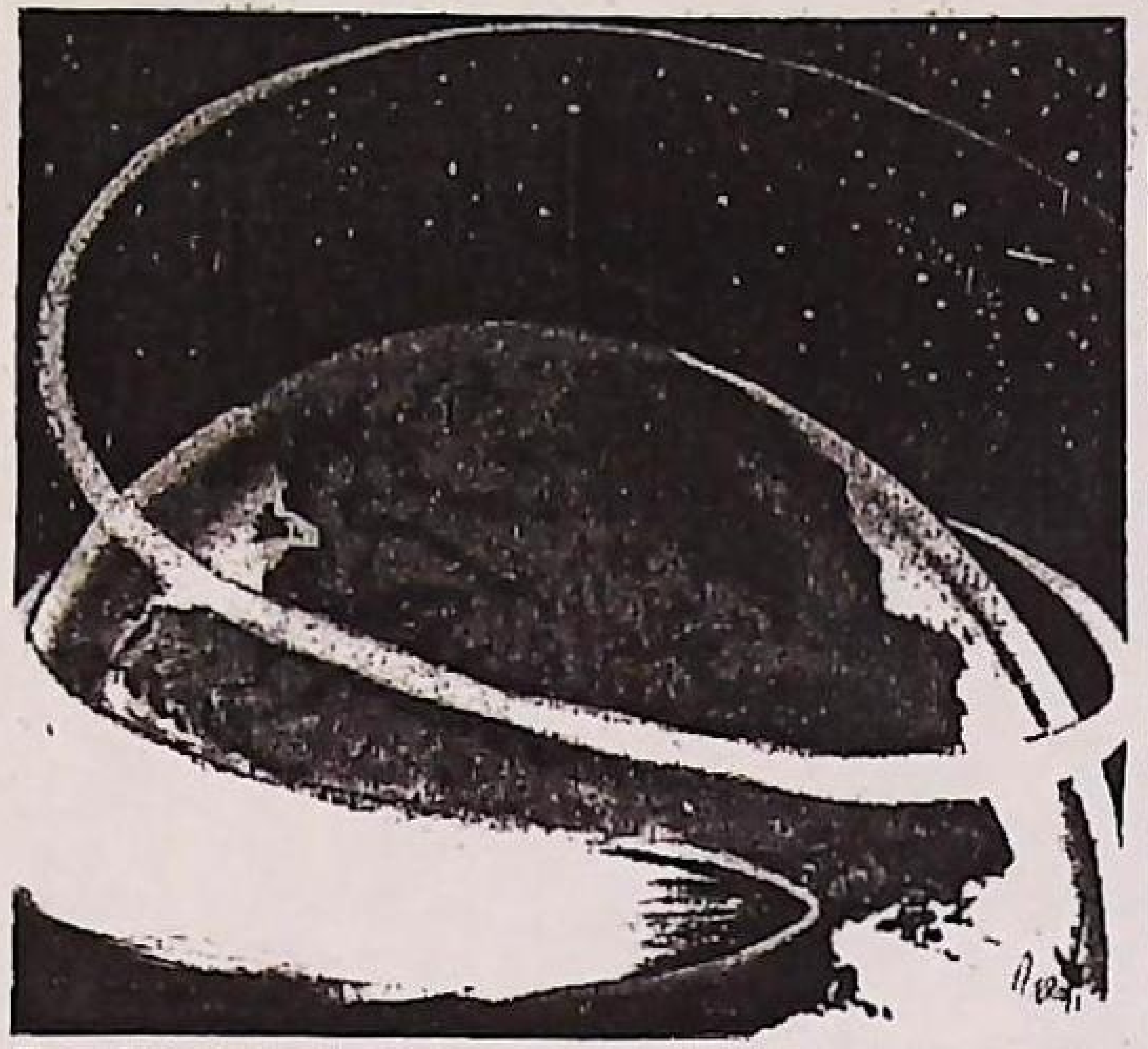
The first is that it must move at the rate of about 4½ miles a second.

The second is that it must move above atmosphere, else it will lose speed and eventually enter denser layers of the atmosphere where it will burn up like a shooting star.

The third is that it must follow a so-called Great Circle.

The term Great Circle course is fairly familiar now because airliners use it whenever feasible, but the precise meaning of it still escapes most people. Actually it is quite easy to explain. If you slice up a ball of clay each slice will form a circle, but the largest circle will be formed by the slice which goes through the center of the ball. It makes no difference whether you slice vertically, horizontally or at any angle in between, the slice through the center will always produce the largest circle and any portion of this will be a Great Circle.

A large number of Great Circles are marked on any globe. Any meridian is a Great Circle. So is the equator. But many other Great Circles are possible. The artificial satellite must follow one of them. Which should it be?



The artificial satellite will circle the earth every 90 minutes. But for how long is a matter of conjecture. It could stay up there for 450 hours, or 4500 hours or 9000 hours. Its rate of slowing down to the point where it falls to earth is of great importance. This drawing shows the final plunge to the dense layer of air where even reduced speed will cause the satellite to burn up before it reaches earth.

Instrument Within

To find out let's examine the job of the artificial satellite. In external shape it may be a sphere or it may simply be the nose cone of the rocket. Inside its metal skin it harbors a large array of instruments.

One of them will count the number of cosmic rays which hit the satellite. Another will count the number of particles of cosmic dust striking it; larger meteorites, say with a diameter of one eighth of an inch or bigger, are so rare that a hit would be a fantastic coincidence.

Still another instrument will measure to what extent the metal skin is heated by the rays of the sun. This is important to know, just as it is important to know how quickly the skin will cool off when the satellite enters the earth's shadow.

One instrument will measure the strength of the earth's magnetic field. All of them will be hooked up with an automatic radio transmitter which broadcasts the readings to the ground, where stations can receive it and translate the radio impulses into figures with meaning.

This technique—the technical term is "telemetering"—has been developed for use in high altitude rocket shots. The power for the transmitter will come from the sun; the Bell Laboratories invented their solar battery just in time.

Location of Stations

If the artificial satellite travelled along the Great Circle called equator it would be necessary to build the receiving stations near the equator. Of course they could be Navy vessels or airplanes converted for this purpose. And it would fall short in its job in being able to transmit only information about conditions over the equator.

But the magnetic field of the earth, as everybody knows, differs with distance from the magnetic pole which is not too far from the real pole. And, which is not well known, the number of cosmic rays also varies with distance from the magnetic pole.

In short, an artificial satellite traveling over the equator would teach us less than one which travelled along a meridian from pole to pole. It may be put into such an orbit, called a circumpolar orbit, or it may be an orbit which reaches its highest north over the Arctic Circle and its farthest south over the Antarctic Circle.

Figures to Be Exact

It must not be imagined that the findings of the artificial satellite will be great surprises to scientists. One might even say paradoxically that a surprise finding would be a great surprise. When it comes to things like the number of cosmic rays at the distance of the satellite, the scientist knows approximately what to expect. But this is the point: he knows it only approximately. The satellite is to provide precise figures.

One might say that the scientist is in about the position of a man who knows that a certain store is on Fifth ave. between 42d and 52d st., but does not know the precise address. The satellite's instruments have to establish the correct figure.

One of them is the problem of just how much air resistance is left at a certain height. We know, for example, that no satellite could be established at a height of 100 miles. There still is a trace of air up there to slow it down. We are also sure that at a height of 1100 miles the satellite would not be slowed down at all. But what about, say, 200 miles?

Problems at 200 Miles

It has been suggested to put the first satellite at 20 miles. In all probability it would be slowed down after a while, sink into denser layers of the atmosphere and burn up. But would it last for 200 revolutions, or for 3000 or for 6000?

Since every revolution around the earth at that height takes 90 minutes, one could also ask: would it last for 450 hours, or 4500 hours, or 9000 hours?

This is what has to be found out. The time the satellite will remain at a height where it cannot stay permanently, the rate of slowing down and its precise behavior under these conditions are of such importance to science that the experiment would be worthwhile if nothing else were established.

Would Resemble Star

At dawn or dusk, under uncloudy conditions, one will see a pinpoint of light moving directly overhead. The satellite will resemble the ordinary star (except that its light will be a reflection of the sun.)

It is impossible to say now whether the naked eye would be able to judge distance variances from its original orbital path.

Some scientists have even suggested an un-instrumented satellite, just a large plastic foam bubble, for this research purypose. But if you shoot into space you might as well shoot instruments and find out a few other things, too.

Besides, the top stage of the rocket will provide an un-instrumented satellite anyway. Remember that one shot produces two satellites, if the instrument load is separated from the carrying rocket after it gets into space.

Monday: What good are satellites?

Red Sees Life Like Man's On Outer Galaxy Planets

By Verner Forchhammer

COPENHAGEN, Aug. 6 (INS). A leading Soviet astronomer expressed belief today that life can exist on "numerous" planets outside the earth's solar system.

Prof. Kyrill Fedorovich Ogorodnikov, however, doubted that life similar to that on earth would be found on any of the planets within the earth's solar system.

Scientists hope to land space ships on these planets in the next few decades but Ogorodnikov said his compatriots were not even theoretically envisioning the day they will explore the outer galaxy.

To reach these unknown worlds, he said, a space vehicle would have to travel at the speed of light—about 186,300 miles a second. And it is in this outer realm of the galaxy that Ogorodnikov said "there must be numerous planets" that could be inhabited by men.

While the professor is doing his bit to help man reach the moon and beyond, he has no intention of going there himself.

Ogorodnikov said he "certainly would stay on earth" even if the problems of space flight were solved.

The English-speaking scientist who has studied at Harvard University's Yerkes Observatory, is currently a professor at Leningrad University. He is in Denmark for the International Astronautical Federation Congress.

The 55-year-old Russian was asked in an interview about the possibilities of finding a planet in the earth's solar system on which man could live similar to his life on earth. Ogorodnikov expressed doubt, but added:

"Man at that time may have many devices to enable him to eke out an existence on some planet or other."

Asked if a planet allowing life similar to that on earth might be found in solar systems outside the earth's galaxy, he replied: "Certainly there must be numerous planets of that kind."

"Reaching them however demands enormous speeds—speeds up to the velocity of light or maybe beyond," he added.

"At present we cannot envisage surpassing the speed of light either theoretically or logically, but who knows what kind of new relativities the future may hold for us."

Billy Graham Preaches Today

Evangelist Billy Graham will preach at the 9 and 11 a. m. services today at the National Presbyterian Church, N st. and Connecticut ave. nw.

Doors will open at 8 a. m. and church members with identification and guests with invitation cards will be admitted up to 8:30 a. m. All others will be admitted after 8:30. Church members with identification will be admitted up to 10:15 a. m. before the 11 a. m. service.

New Fairfax Pupils [illegible] o Register

Samuel J. Coffey, principal of the Fairfax High School, announced yesterday that all those not enrolled at the high school last semester who plan to attend this fall should report to the school for registra- [illegible] ween 9 a. m. and 3 p. m. [illegible] through Aug. 19. [illegible] y said that eighth-grade [illegible] in county elementary [illegible] last semester do not [illegible] to register. The registration applies only to new pupils [illegible] county.

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See "The Adventures of Sherlock Holmes" on WRC-TV Channel 4 . . . Monday at 7 p.m.

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- Permanent filter saves replacement costs—removes for cleaning
- Automatic temperature control assures complete comfort
- Rotator air directors direct air flow where it is needed

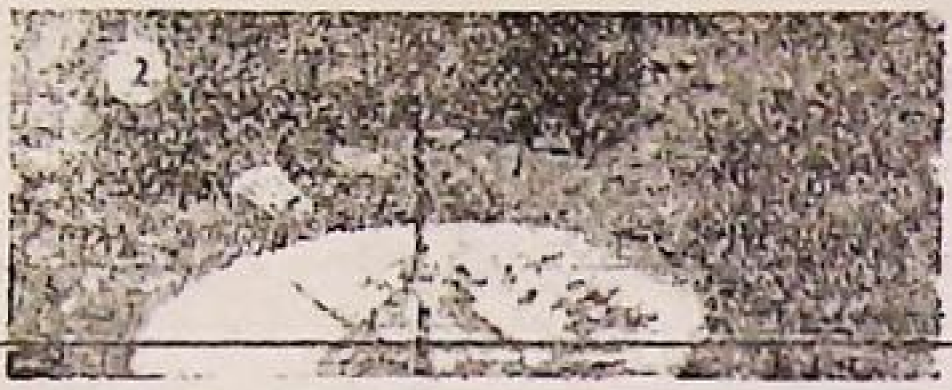
GOING OUT

Washington Post, D.C.

6 August 1955

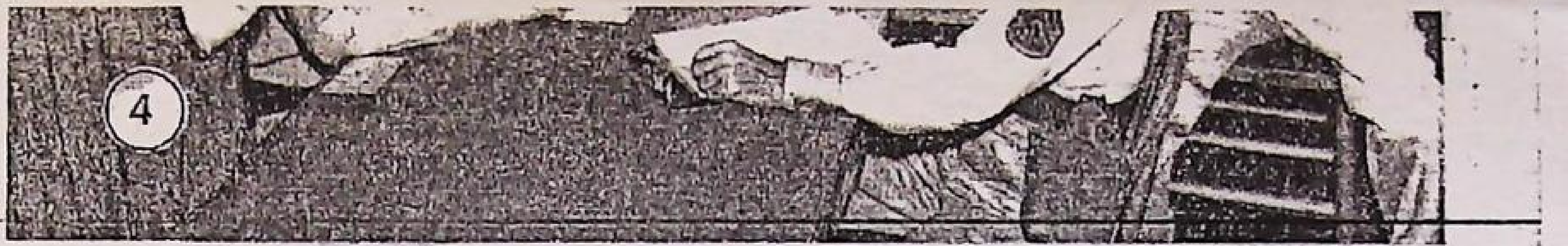
page 21 column 1-6

Saturday



John R. Lally, Schneidler, Nobleman and Lally, all lawyers, are members of the group's legal team.

In addition to training in military government, the group is engaged in maneuvers involving firearms and grenades. The reservists will return to Washington area homes Aug. 13.



Three-Stage Liquid Fuel Rocket Will Propel Satellite Into Space

(Second of a series)

By Willy Ley

WHAT I DESCRIBED yesterday, the take-off of the rocket which carries the artificial satellite into space, was written under the assumption that the satellite would be carried by a three-stage liquid fuel rocket.

This means a rocket which carries a smaller rocket in its nose and the second rocket carries a third and still smaller rocket. The third rocket, the only portion of the whole assembly to reach space, finally carries the package of instruments which is the artificial satellite.

But there are several ways in which a package of instruments could be tossed into space. Before discussing them something must be said about gravity.

In spite of more than 200 years of hard thinking by scientists and philosophers we still don't know what gravity is. But though we do not know its nature we do know how it works and that is good enough for all practical purposes, from the forecasting of eclipses to shooting things into space.

It works like this: If a missile fell from a height of 100 miles it would strike the ground with an impact velocity of about one mile a second. (In reality it would be slowed down by air resistance, but that is another story.) Conversely, a rocket which attained a speed of a mile a second would rise to about 100 miles. Many V-2 rockets have done this.

The faster Navy rocket Viking has climbed to 158 miles by producing a speed which is the impact velocity for a fall from that height.

And in Project Bumper, which was a two-stage rocket, made up of a V-2 as the first and a WAC Corporal rocket as the second stage, the WAC Corporal reached a maximum speed of about 1½ miles a second. It climbed to 250 miles.

IF A ROCKET, or a rocket assembly, could reach a velocity of 5 miles a second it would climb to more than 4000 miles in a vertical shot.

With 7 miles a second it would not come back, for that is the highest velocity the earth's gravity could produce.

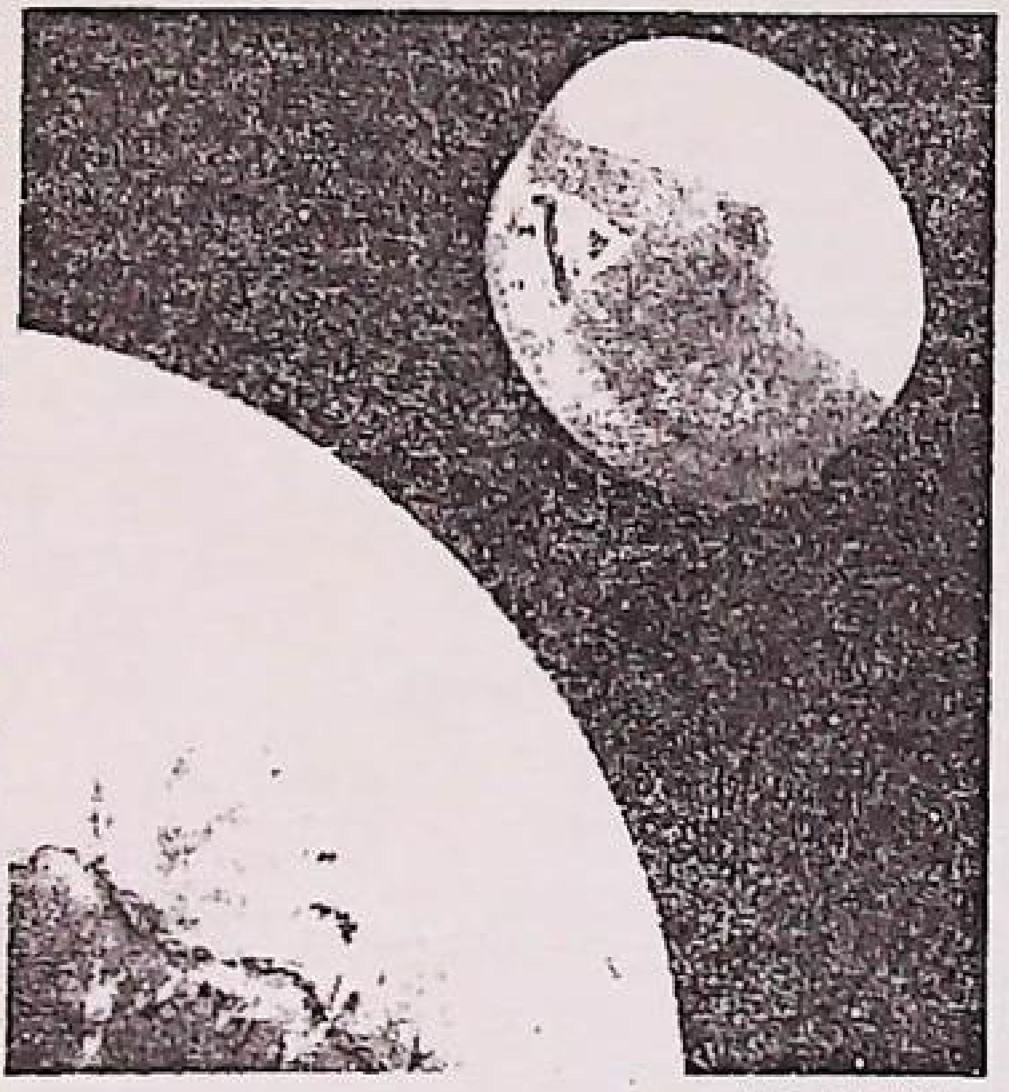
Compare the earth's gravity to a rubber band. The harder the pull (by the rocket) the farther it stretches. At 7 miles a second it snaps. But you don't have to snap it to stay in space. All these rockets fall back ultimately because they are fired vertically, or very nearly so. If fired at a slant you get a different effect.

It is like swinging a stone around on a rubber band. The band is stretched, but not to the breaking point. On the other hand, it is stretched enough so that it cannot pull the stone back. All it can do is to prevent it from going farther away.

The effect is that the stone—or rather the package of scientific instruments which is the satellite—literally falls around the earth and will continue doing so for eternity unless something stops it or reduces its speed so that earth's gravity gets the upper hand. This nice balance takes place when the rocket moves with a lateral speed of about 4½ miles a second.

NO AMOUNT of ingenuity can change this speed requirement. But it can be accomplished in various ways. One team of engineers presented a paper at a scientific meeting last year in which launching from a balloon was advocated.

The balloon was to carry the rocket assembly to about 60,000 feet which would leave most of the troublesome air resistance below. Then a set of four very heavy solid fuel (smokeless powder) booster rockets was to go into action. They would carry a liquid fuel rocket with a smaller liquid fuel rocket in its nose. One of the points of the paper was that all the various types of rockets needed already exist. So does the balloon.



International News

Even before America's unmanned satellite is launched scientists are plotting the flight of manned "moons." This one was sketched on proposals outlined by Maj. Alexander P. de Seversky, famous aviation pioneer.

Another idea advanced was to have a fairly small assembly of liquid fuel rockets carried aloft by a large jet bomber. The reason again was to leave as much air resistance as possible below and the jet bomber also would supply some of the needed speed. Moreover, the jet bomber's pilot could fly his plane in the proper direction when igniting the rocket.

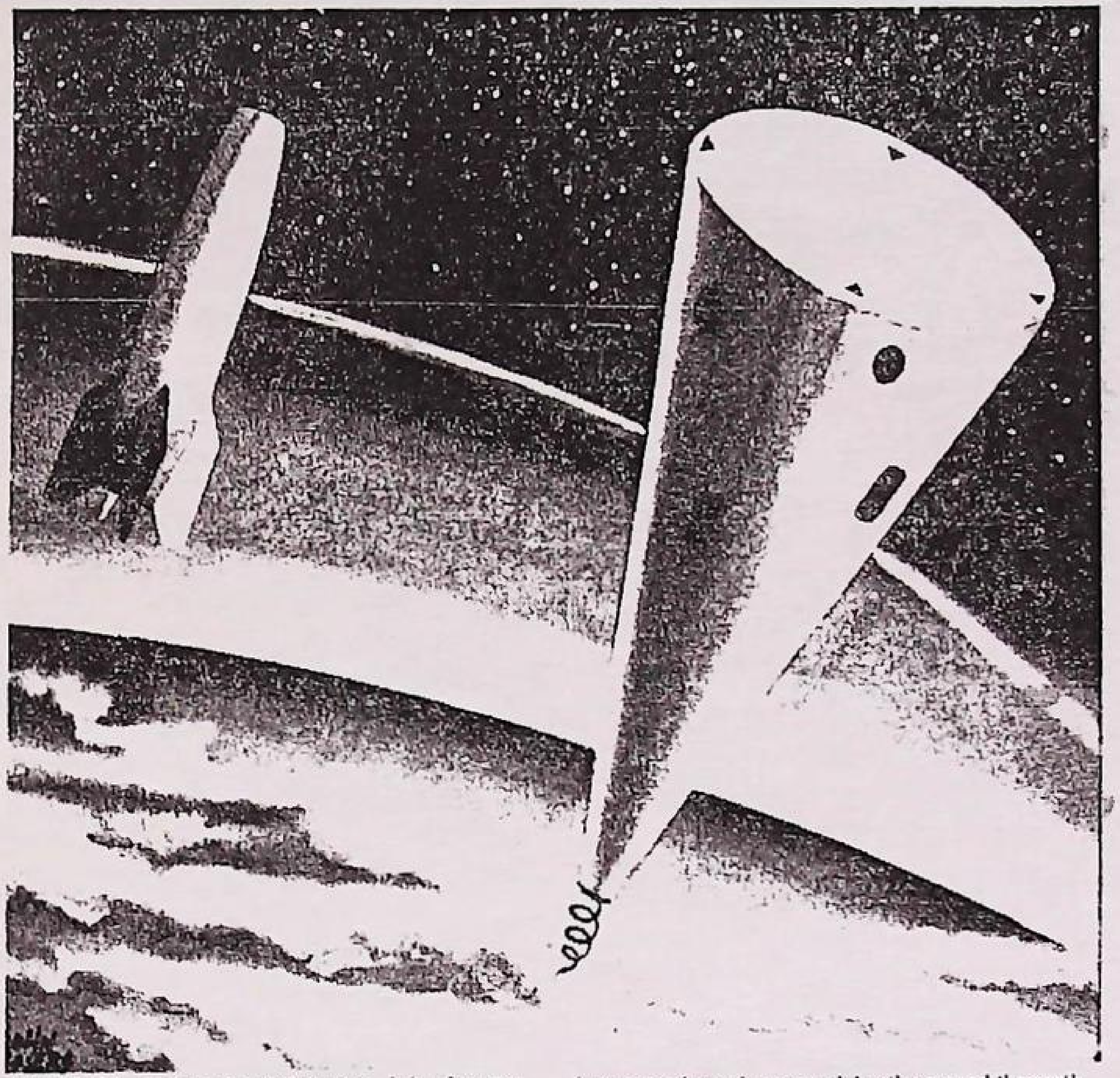
Offhand, however, the method of having a large three-stage rocket taking off directly from the ground seems the most practical for various technical reasons. It is, of course, possible that the second stage may run on a different liquid fuel than the first stage (as was the case in Project Bumper) but this is comparatively unimportant.

The important point is that a lateral velocity of four and a half miles per second is reached above the atmosphere. And the curious fact is that with a single rocket shot we'll probably get two artifical satellites.

Why?

LET'S RECONSTRUCT again what must happen. Here is the top rocket of the whole assembly. The lower stages have been shed during the climb through the lower atmosphere, the stratosphere and the top layer, the ionosphere. The top stage is in space and has settled in its orbit around the earth. In its nose is the satellite proper, the package of scientific instruments.

To work to their fullest capacity they must be free of the rocket. Mechanically this is rather simple, it only needs a slight push. One way of doing it would be to mount the instrument package on a tensed spring. A release mechanism is coupled with a timing device that starts running at take-off.



A space package (foreground) hurtles around the earth at 18,000 miles an hour, carrying instruments that send data back to scientists. In background is third-stage rocket which imparted final push to space package.

Fifty minutes after take-off the release clicks and the spring pushes the "satellite" out of the rocket. Or else it could be done with a puff of compressed air, or even a tiny powder charge. The engineer will pick whichever weighs least. But the top stage of the rocket assembly is in space too and has little reason to fall back as has the satellite. The inevitable result is that there will be two bodies circling the earth some distance apart.

But if this release should fail to work, or the instruments do not function for some trivial reason? The answer is that the experiment would ~~be worth~~ the expense and the effort even then.

Sunday: Which Way Around the Earth?

NEWSPAPER: THE WASHINGTON POST
LOCATION: WASHINGTON, D.C.
DATE: 5 AUGUST 1955
FRIDAY
PAGE 25, COLUMN 1-6

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Space

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illy Ley

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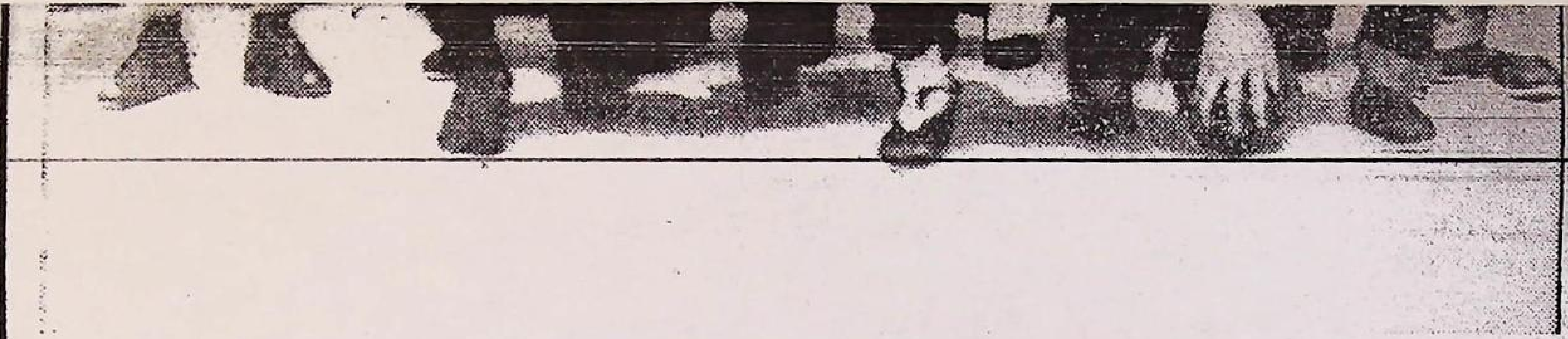


United Press

Willy Ley (left), author of the accompanying article, discusses the forthcoming launching of a man-made satellite with Dr. Wernher von Braun, famed rocket expert.

a second. By the time the sound reaches the visitors the rocket already

mentum has been eaten up by gravity and air resistance left at such heights.

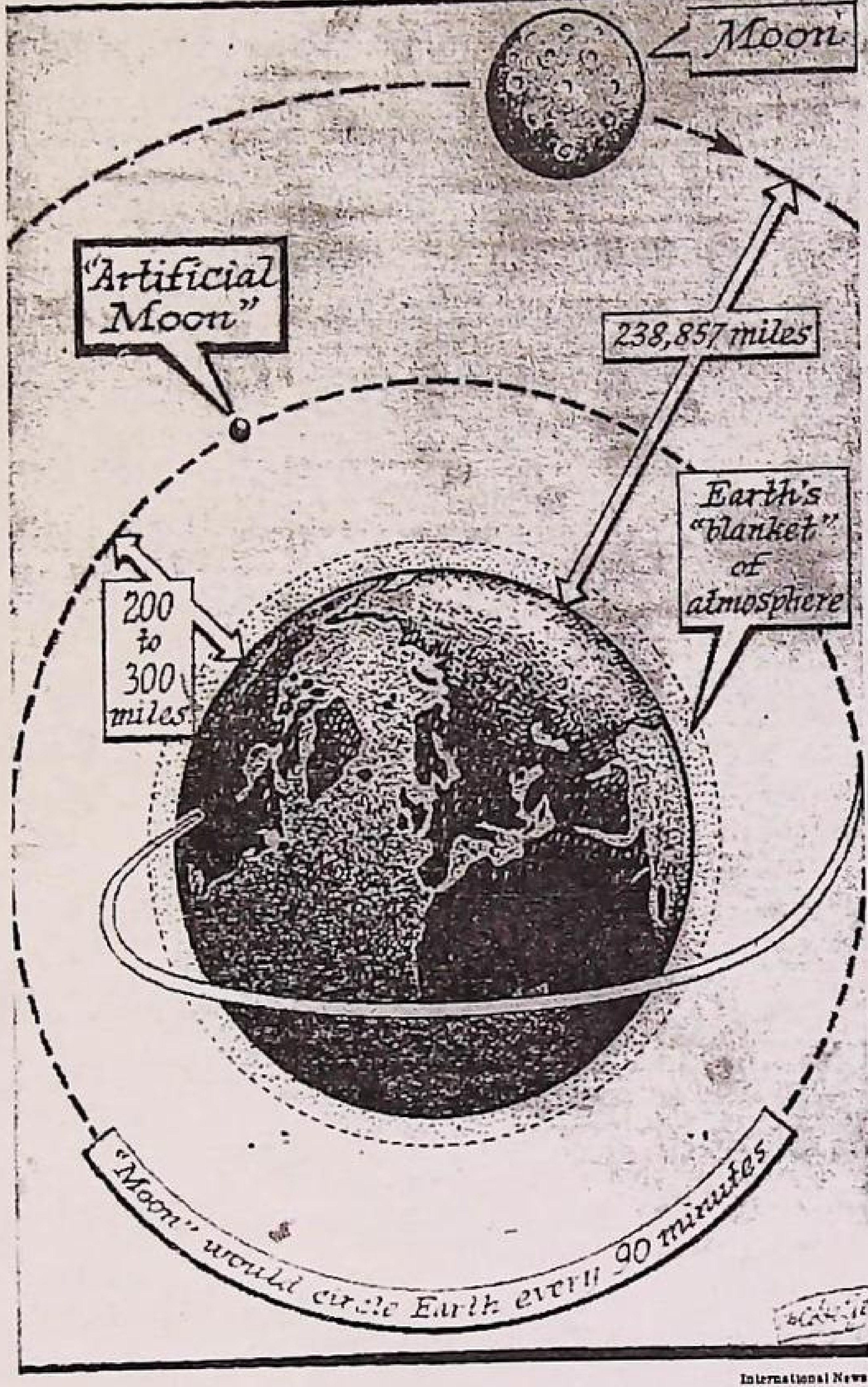
say: "Adaptation Maneuver accomplished!"-This means that 200 miles

kong. Col. Arnold is standing at left.

(Story on Page 1.)

Photos by Associated Press and International News

Woosh..! And America's Satellite Heads for Its Tour of Outer Space


Moon
"Artificial Moon"
238,857 miles
Earth's "blanket" of atmosphere
200 to 300 miles
"Moon" would circle Earth every 90 minutes

International News

This sketch shows the orbit of America's proposed unmanned satellite about 300 miles above the earth in relation to the orbit of the moon.

(First of a series)

By Willy Ley

About the Author

WILLY LEY, the author, has long been considered one of the world's foremost experts on rockets and the possibilities of space travel. A native of Germany, he helped organize and headed up the German Rocket Society, and achieved world acclaim as a physical scientist. With the Nazi rise to power in 1935, Ley came to this country, where his knowledge brought him even greater fame and prestige. As an American, he helped greatly in the popularization of rocketry.

LATE in 1956, or early in 1957, representatives of Congress, generals, air generals and admirals, delegates of important scientific institutions and possibly members of the Diplomatic Corps will stand under a blue morning sky and gaze at a tall rocket.

The rocket will still be shrouded in the mechanical scaffolding of a Gantry crane. Technicians will still be checking electrical connections, scientists will be going over instrument calibrations and engineers will be looking once more at trajectory calculations which, by that time, they can recite in their sleep.

Airplanes will roar overhead to warn off all shipping for 200 miles to the east along the line of the calculated flight path. Soon after the visitors will be packed into cars and buses. The fueling operation is due to start and heavy tanker trucks are inching up to the pipeline connections.

The visitors will be taken half a mile from the take-off site. This is not only the distance considered safe in case of accident, but also the distance from which events can be seen best.

Twenty minutes before X-hour, the moment of take-off, there will be the traditional red flare which proclaims "X-minus 20." Twenty minutes to go—they are, at any big rocket shot, the longest 20 minutes.

Suddenly the loud-speakers begin to call out the count-down. At the moment of "Zero—Rocket Away" the visitors will see a flame below the rocket and what looks like a puff of smoke.

It is actually dust kicked up by the exhaust blast, roaring out of the exhaust nozzle at better than 7,000 feet a second. By the time the sound reaches the visitors the rocket already has lifted.

IT CLIMBS slowly like an elevator at first, but at the end of every second it moves about 50 feet a second faster than at the beginning of that second.

After 20 seconds there isn't really much to see any more except for a bright dot in the sky but the loud-speakers will keep everyone informed. One minute after take-off the rocket is at 120,000 feet and the bulk of the atmosphere is below. The rocket is no longer climbing vertically, but slantwise in an easterly direction. This is important for reasons of fuel economy because that's the way the earth turns.

One minute and 15 seconds after takeoff comes a crucial moment: "the separation." The big rocket is nearly out of fuel and it is time for the smaller rocket carried in the nose of the first to break free and take over.

"Separation accomplished," the loud-speakers report.

Now the second smaller rocket forges ahead under its own power, climbing at a slant.

But the bigger first rocket still follows. It is no longer under power, but it takes a few minutes until its momentum has been eaten up by gravity and air resistance left at such heights.

Another minute and 15 seconds later, at a height of around 45 miles, there is another separation.

Now the "third stage" the still smaller rocket in the nose of the second rocket, breaks free. The first rocket built up to a speed of 1½ miles a second—rocket engineers do not like to speak in "miles per hour," the figures become too unwieldy—and the second rocket added the same amount.

When the third rocket takes over it is already moving at three miles a second before it has ever burned a single drop of its own fuel. As the third rocket climbs slantwise through the outer layers of the atmosphere the first rocket is just about to fall back to the ground, the second is, of course, still climbing, though on momentum only.

NOT QUITE four minutes after initial take-off the third rocket stops burning and continues like a projectile. About one minute after that No. 1 splashes into the ocean, 200 miles from the take-off site. Ten minutes later the loud-speakers announce that No. 2 has hit the water, 900 miles from the take-off site. And after three-quarters of an hour they say: "Adaptation Maneuver accomplished!"-This means that 200 miles out in space, and half-way around the earth, the third rocket has produced a final burst of speed.

The reason is this: The artificial satellite, which is the "payload" in the nose of the third rocket, is supposed to take up a closed circular path around the earth. This circle should be concentric with the circle formed by the surface of the earth underneath, or rather inside it. Without the adaptation maneuver the path of the satellite would be closed and might be more or less circular, but it would not be concentric with the "periphery" of the earth.

The two circles would be inside each other all right but in a lopsided manner. Because of that, part of the satellite's path would lead through the upper atmosphere and air resistance would gradually reduce its speed. And with reduced speed it would crash soon.

It will take only 45 minutes from the word "zero" for the great experiment to be completed in its first phase. No. 2 begins: Finding out what the satellite does and what happens to it.

Saturday: A Package Falls Around the Earth.

United Press

Willy Ley (left), author of the accompanying article, discusses the forthcoming launching of a man-made satellite with Dr. Wernher von Braun, famed rocket expert.

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MILFORD, CONN., THURSDAY, JUNE 22, 1961

[illegible] Central principal here for the past [illegible] years, was presented a [illegible] at the Chamber of Commerce [illegible]
(Citizen photo by [illegible])

Rogers Honored Of Year, 1961

[illegible]

Willy Ley Talks On Space Age

This country has not lagged as far behind in space age development as some pessimists keep saying, according to Willy Ley, one of the nation's top experts in this field, who spoke to the Milford Chamber of Commerce at its seventh annual banquet Tuesday night at Dana's Town [illegible].

The major difference, he said, is that Russia has concentrated upon the goal of manned space flight with emphasis on greater takeoff thrust to put larger satellites into orbit.

Meanwhile, the United States has embarked on a wider scope of research, he said, giving attention to "utility" satellites which will serve as navigation aids for ships at sea, as well as in weather observation and in communications.

REVIEWING the history of the "space age" from the earliest, largely ignored theories dating to 1917 and even before then, Mr. Ley recalled this nation could have put space vehicles into orbit well before the Russians except for conflicts as to methods of development and rockets to be used.

For the next year and a half or two years, he said, it still may appear the Soviet Union is ahead of the U. S. but they will be on equal footing by that time and this country will have the advantage of knowledge on a far broader scale.

The speaker, who is the author of several widely read books on space and missiles, also recalled the start in 1927 of the Society for Space Travel of which he was one of the founding members.

Bernard J. Burns, ending his term as president of the local Chamber of Commerce, reported briefly on its activities during the past year and introduced the new officers.

SUCCEEDING to the presidency [illegible]

Republicans Settle Issue On Conflict

[illegible] Alderman James R. Sullivan [illegible]

WHERE BULLETS STRUCK—Peter Wolz, building superintendent [illegible] High School nearing construction in Devon, points to some of the [illegible] bead doors of the building. Twelve windows in addition to the [illegible] estimated loss of more than $1,000.

Rabbi Resigns

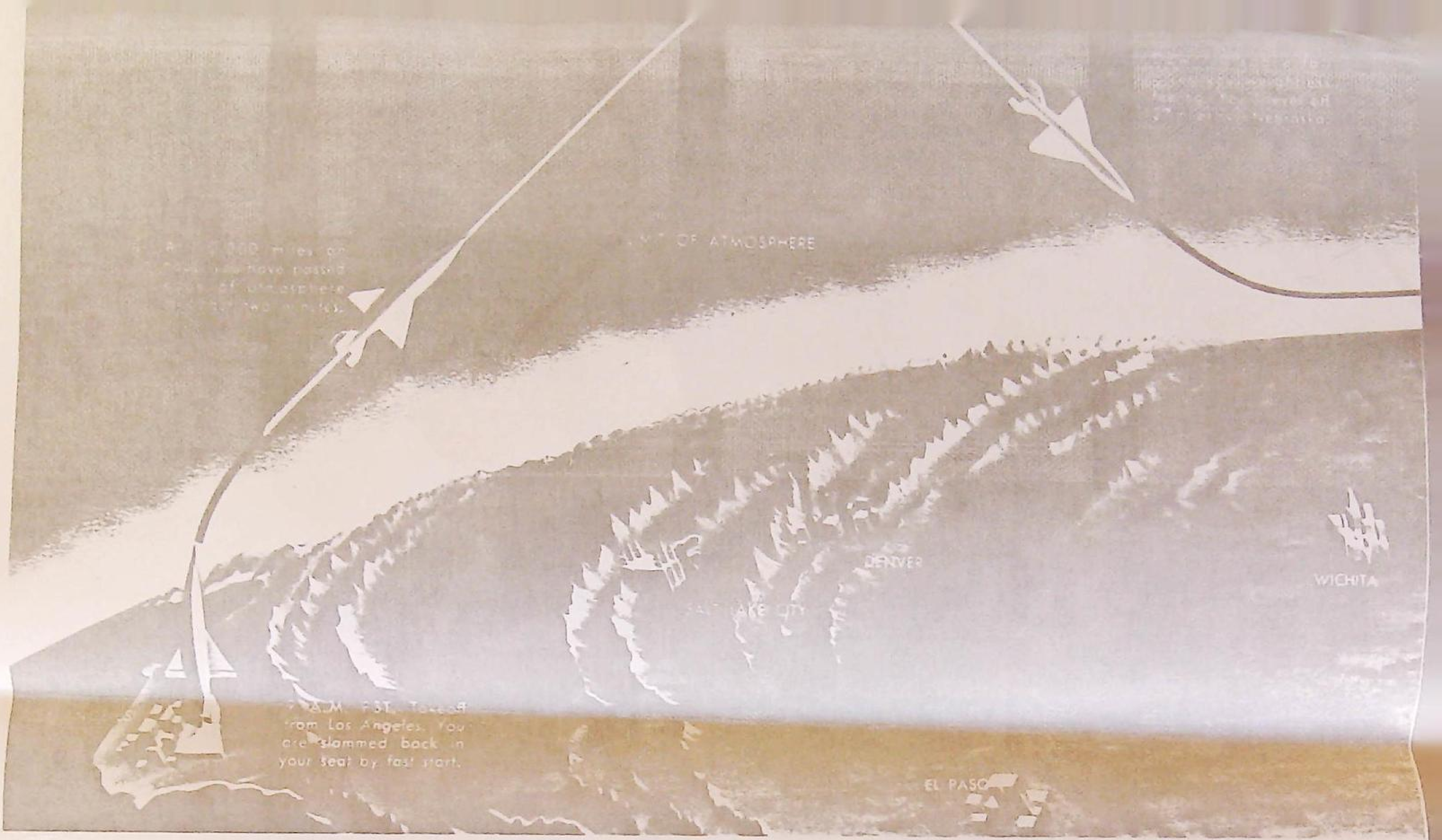
Renewal Engineers

The Milford Redevelopment Agency has engaged the Hamden firm of Goodkind and O'Dea to prepare an engineering report to assist the consultants, [illegible] and Associates, in the preparation of the city's [illegible] Plan.

PARDOE 5 Feb 1950

page 687

Hartford Courant, Connecticut



At 10,000 miles an hour you have passed out of atmosphere in two minutes.
LIMIT OF ATMOSPHERE
DENVER
WICHITA
SALT LAKE CITY
7 A.M. P.S.T. Takeoff from Los Angeles. You are slammed back in your seat by fast start.
EL PASO

Coast to coast in an hour: for simplicity, both times shown are Pacific Standard Time. Actually, you would reach New York at

Coast to Coast—at 10,000 miles

By FRANK De BLOIS

WHENEVER 20TH CENTURY MAN lets his imagination run wild he begins to think about rockets. For, somehow, the thought of soaring through space at incredible speeds never fails to fascinate a generation that is always in a hurry.

Recently this generation was given a new fillip of hope. At a meeting of the American Society of Mechanical Engineers, Dr. Hsue-shen Tsien, Chinese-born rocket expert from the California Institute of Technology, reported that modern science already is equipped to build a rocket ship capable of carrying passengers from Los Angeles to New York in an hour.

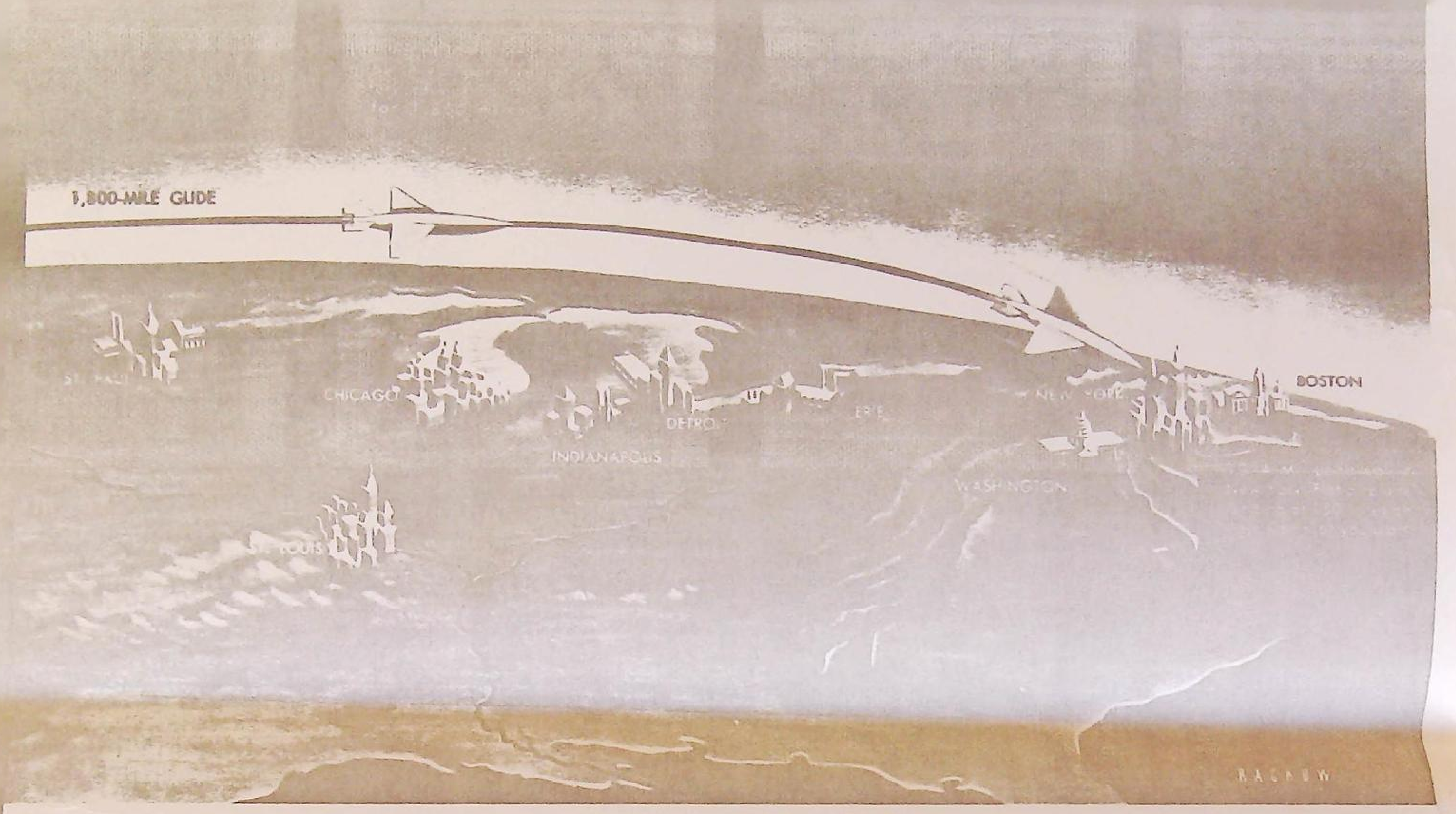
Fantastic? Perhaps. But less than 50 years ago most people thought that airplanes were only the crazy dreams of crackpots. Yet today man flies faster than sound. By the same yardstick, crossing the continent by rocket seems breathtaking now but by tomorrow this may merely be moping along.

The kind of rocket liner Dr. Tsien says could now be built would be [illegible] feet long and [illegible] feet in diameter with a loaded weight of 50 tons. It would have short, stubby wings and a jet engine, as well as a rocket motor for landing. Its top speed, 10,000 miles an hour, would carry it 1,200 miles on an elliptical course to a top altitude of 300 miles. As it curved down toward the earth, it would meet the air again, level off somewhat and turn into a glider powered only by its own momentum. Coasting through the air for another 1,800 miles, it would land at 150 miles an hour just about an hour after the take-off.

You Climb Fast to Get a 'Roller-Coaster' Start

From the passengers' viewpoint, the flight should be a pleasant one, although perhaps a little wearing at the start. At the take-off in Los Angeles, passengers will be slammed back into their seats for the two to three minutes in which the rocket climbs to an altitude of 150 miles. By this time the rocket will have burned all its fuel but will climb another 150 miles because of its momentum.

Above the atmosphere, space will be dark but, if unhampered by [illegible]



1 PM, Eastern Standard Time. Westbound, leaving New York at 6 AM, EST., you would reach Los Angeles at 4 AM, PST.

an hour

ROCKET TRAVEL DRAWS CLOSER; WHAT WILL A CROSS-COUNTRY TRIP BE LIKE?

hazy square miles of the North American continent spread out before him—if he is in the mood to observe this impressive panorama.

As the rocket descends, the passenger will have a sensation like falling in an elevator whose cable has broken. But with no reference points to mark the progress of his fall, he will be unconscious of the fact that he is travelling 10,000 miles an hour.

After a flight of about 15 minutes the rocket will descend to a level of 27 miles somewhere over Nebraska. Then cloud formations, thunderstorms and even cities, rivers and plains will be visible below and from this point on until the landing in New York a trip in a rocket will be not unlike a superfast airplane ride.

Hazards of the trip will be more pronounced, however, than those encountered in a plane. In the first place, the pilot will have little to do in a rocket because it is next to impossible for human reflexes to keep up with the speed of a space ship. His main duty will be merely to watch the operation of pre-set controls and, consequently, in case of any emergency he will be of little more use than the passengers.

Engineering genius at last has solved the problem of intense heat in a rocket by using the rocket fuel itself as the cooling agent. But the possibilities of fire and explosion should remain great enough to keep passengers in an interesting state of anticipation during the early years of rocket flight. Collision with meteors is another possible hazard. To genuine rocket addicts, of course, these risks will only add to the zest of the sport.

Needed: a Good Reason for Super-Fast Travel

When, these addicts are asking, can we make a flight like this?

As soon, answers Willy Ley, famed German rocket expert, as there is *good reason* to transport people 10,000 miles an hour.

"If such a reason came into being in August, 1950, the first ship to satisfy the demand could probably be tested in 1955," says Ley. "But it is also possible that such a ship will be developed before that date and that some one then will find reason to use it. In that event, you may find yourself flying through space sooner than you think."

ucks and drills at 8½ cents less han last year.

• • •

Do you have trouble sweeping lamonds from the floor of your lant? If you're having difficul-les with industrial diamonds, the Vew York regional office, U.S. De-artment of Commerce, may help. t will hold a clinic on industrial lamonds at 10:30 a.m. tomorrow t 2 W. 43rd St., New York City, o cover salvage, conservation and eclamation.

• • •

Once your business gets past wo years of age, it has a better hance of survival. A Dun & Bradstreet report today noted hat the highest percentage of ailure for five of the last seven years hit the two-year-old group of businesses. Significantly, 80 percent of insolvencies in 1951 were firms started since the end of World War II.

• • •

You may never see flying saucers but you can't ignore ockets. Fairleigh Dickinson Col-ege, Rutherford, N. J. has added Willy Ley, the rocket expert, to [illegible] to teach a technical course on rocketry for the coming school year.

• • •

Three railroads have won E. H. Harriman Memorial gold medals for 1951 safety records. The St. Louis-San Francisco Railway Co. took the prize for the large roads: Canadian Pacific Railway for medium lines in the U.S., and Colorado & Wyoming Railway for smaller carriers.

• • •

Furniture stores will hereafter find it easier to sell pads when they sell tables. The Garden Table Pad Co. today announced its new semi-annual "Table Pad Brochure," which lists the maker and order number of pads for 1579 different-sized tables.

U.S. Government Bond

(Quoted in 32nds.)

2s '53	99.30	1
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2⅜s '58	99.24	
2¼s '62-'59	97.20	
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2½s '72-'67	97.13	

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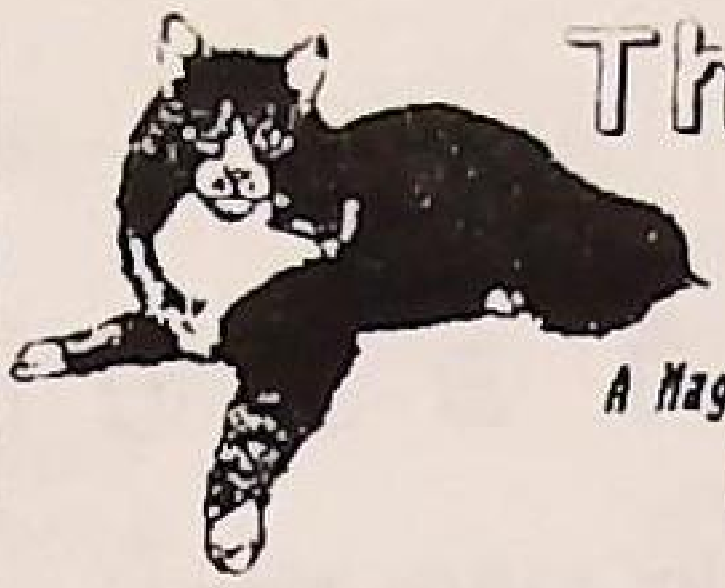
↑ World Telegram Sun, N.Y. N.Y
8 Sept 1952

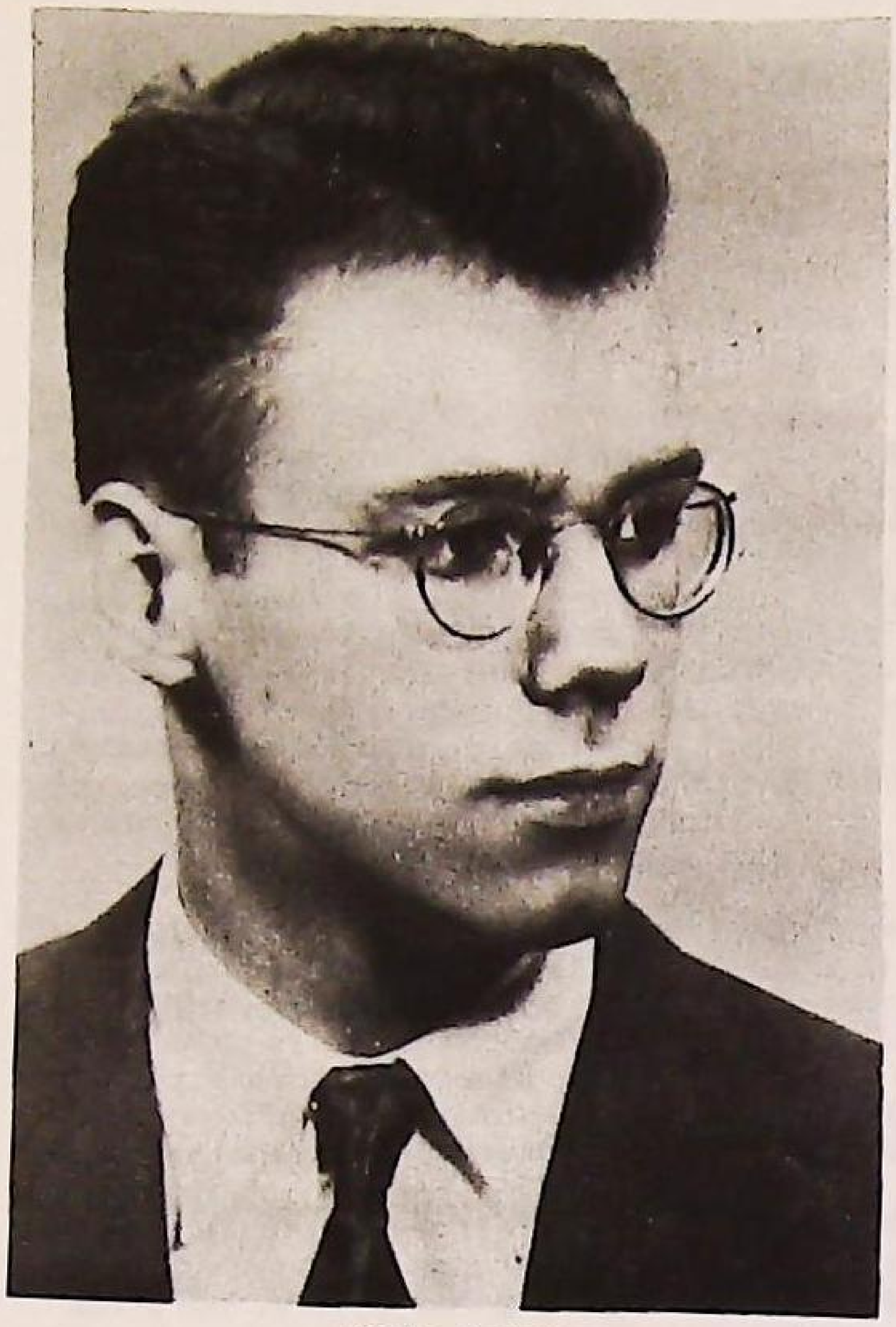


The WORDSMITH Eclectic COLLECTOR

A Magazine Featuring Publications for Trade or Sale (Formerly The Collector)

Issue No. 4: SPECIAL RAY BRADBURY ISSUE
Photographic Memories of the 1954
WORLDCON — San Francisco, Calif.

Credits: Ted White (self-supplied); Ackerman & pics across bottom by Vince Nowell; remaining photos taken by Peter Vorzimer.



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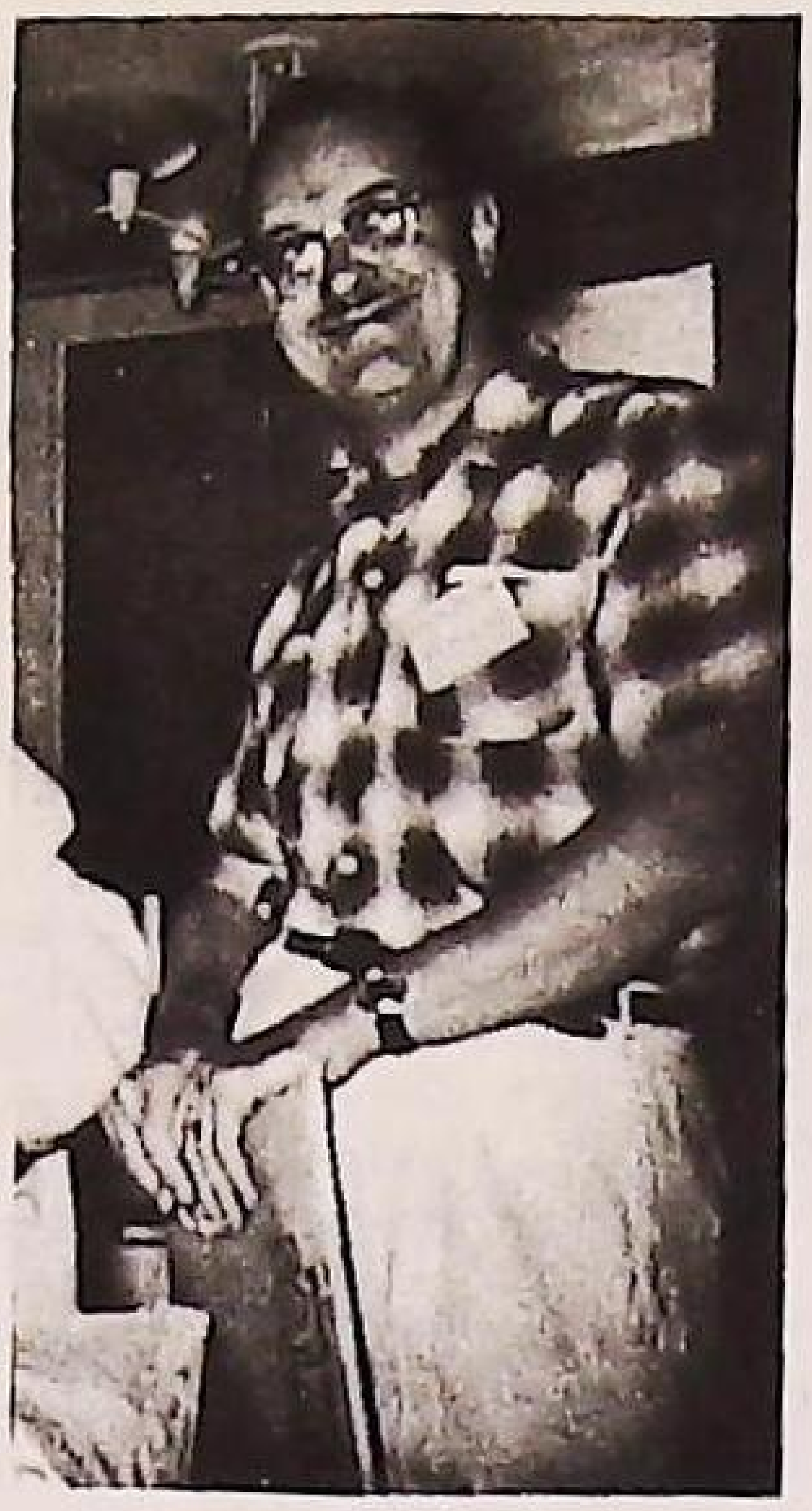
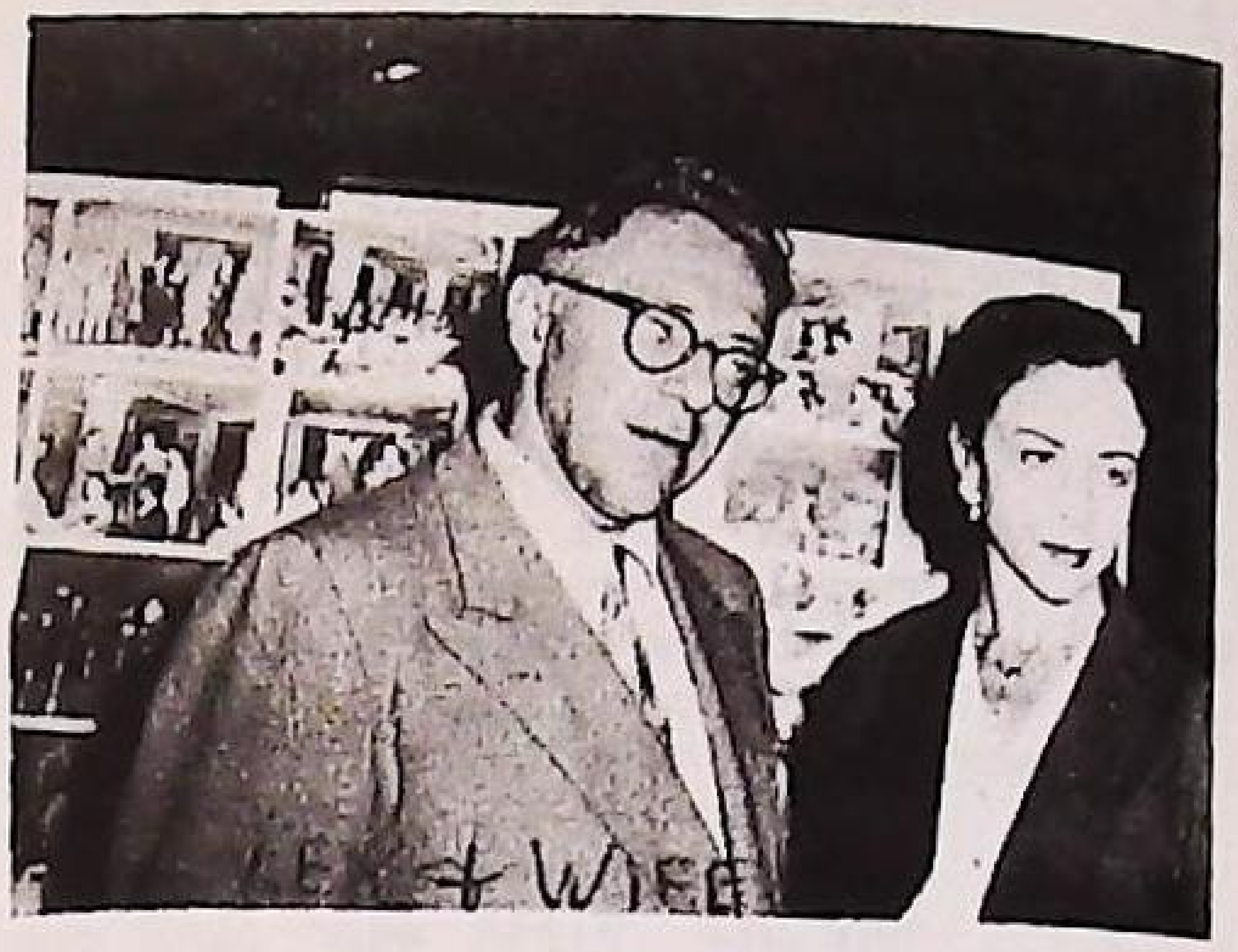
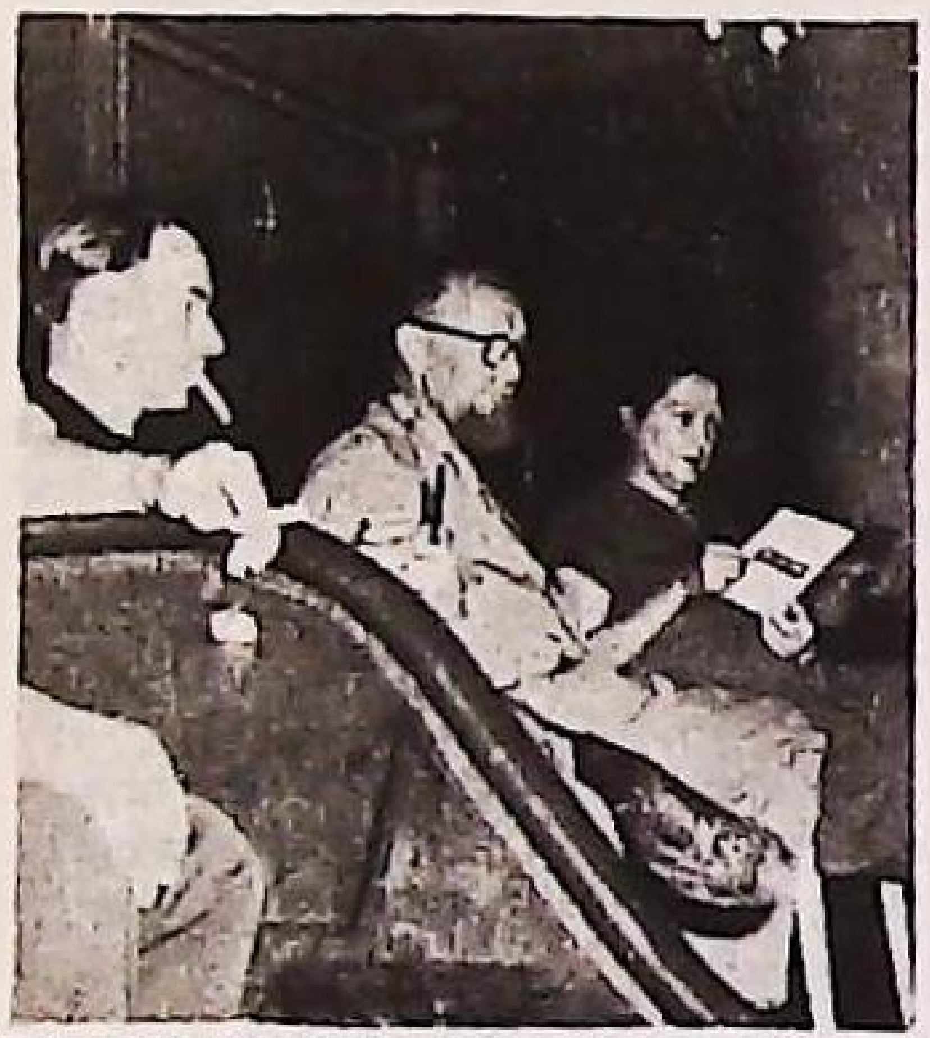


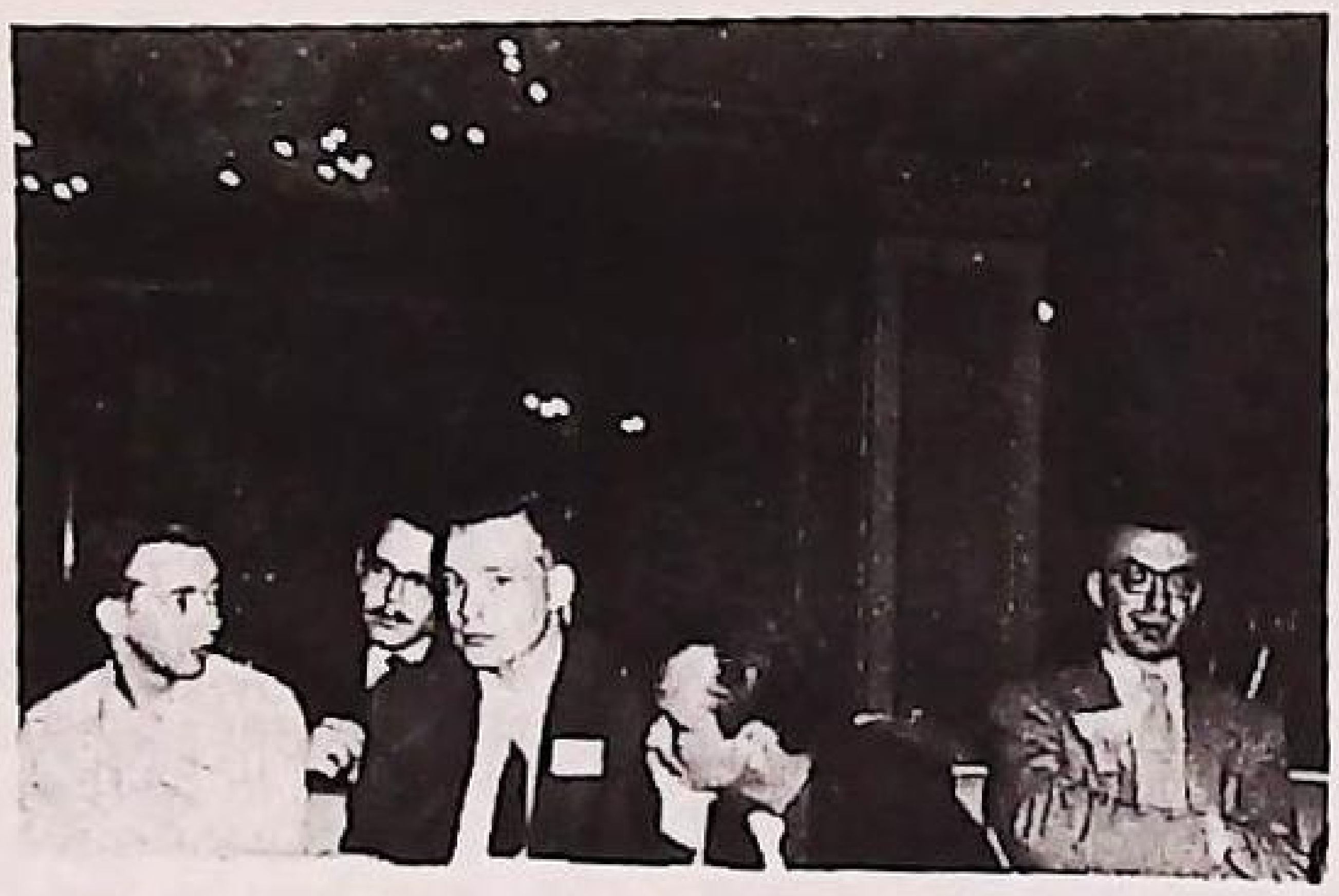
FORREST J. ACKERMAN



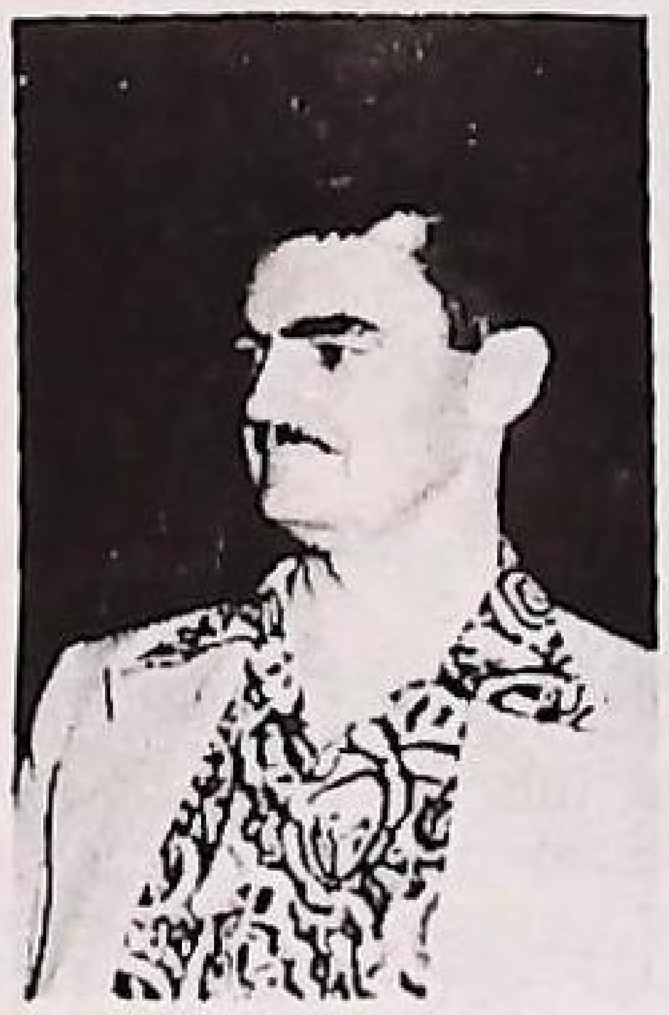
WILLY (& Mrs.) LEY



FLETCHER PRATT (Ctr)



(L–R) LESTER DEL REY, FRANK KELLY FREAS, ALGIS BUDRYS, CHARLES DYE, and LARRY SHAW



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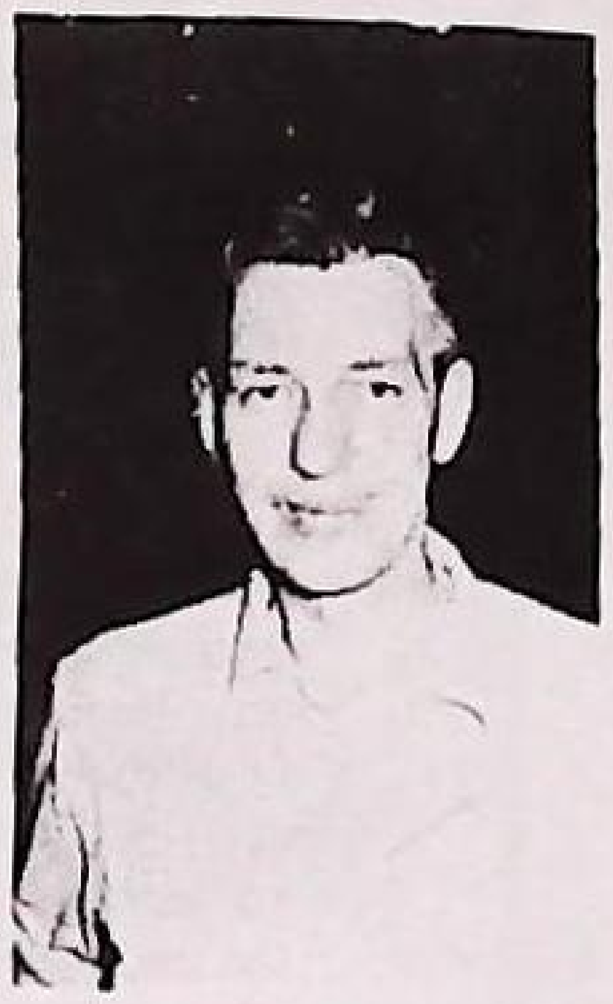
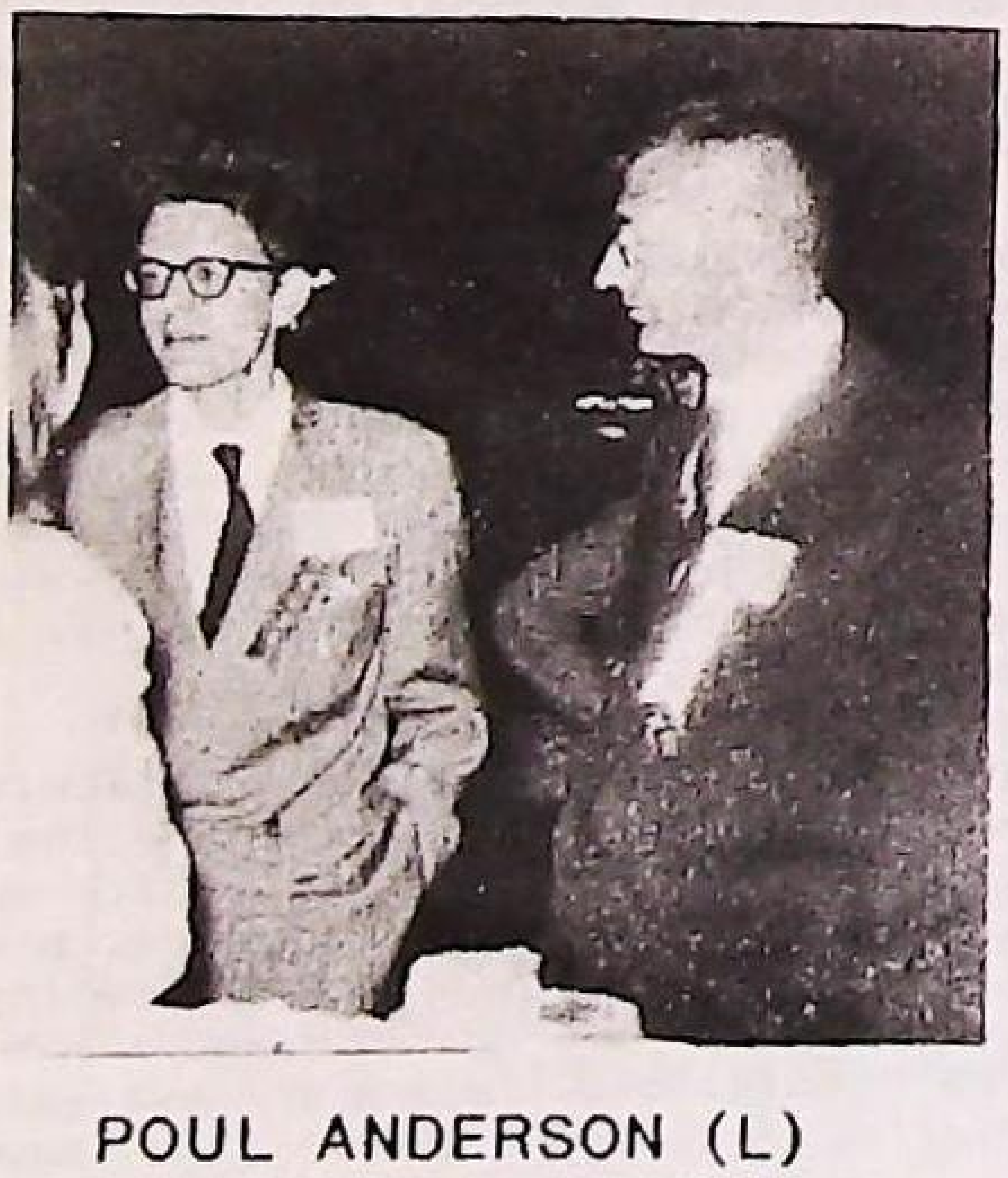


ROG PHILLIPS



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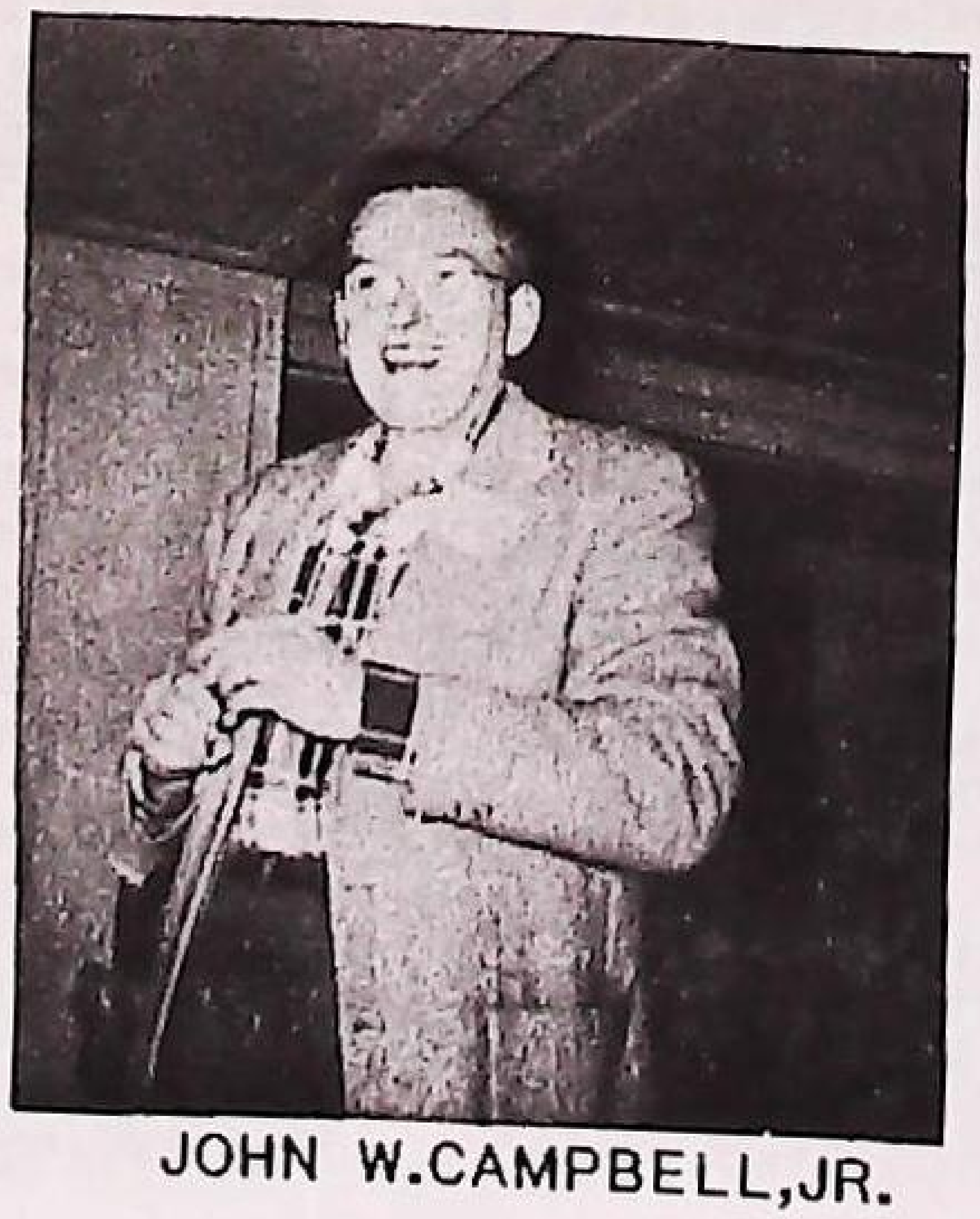

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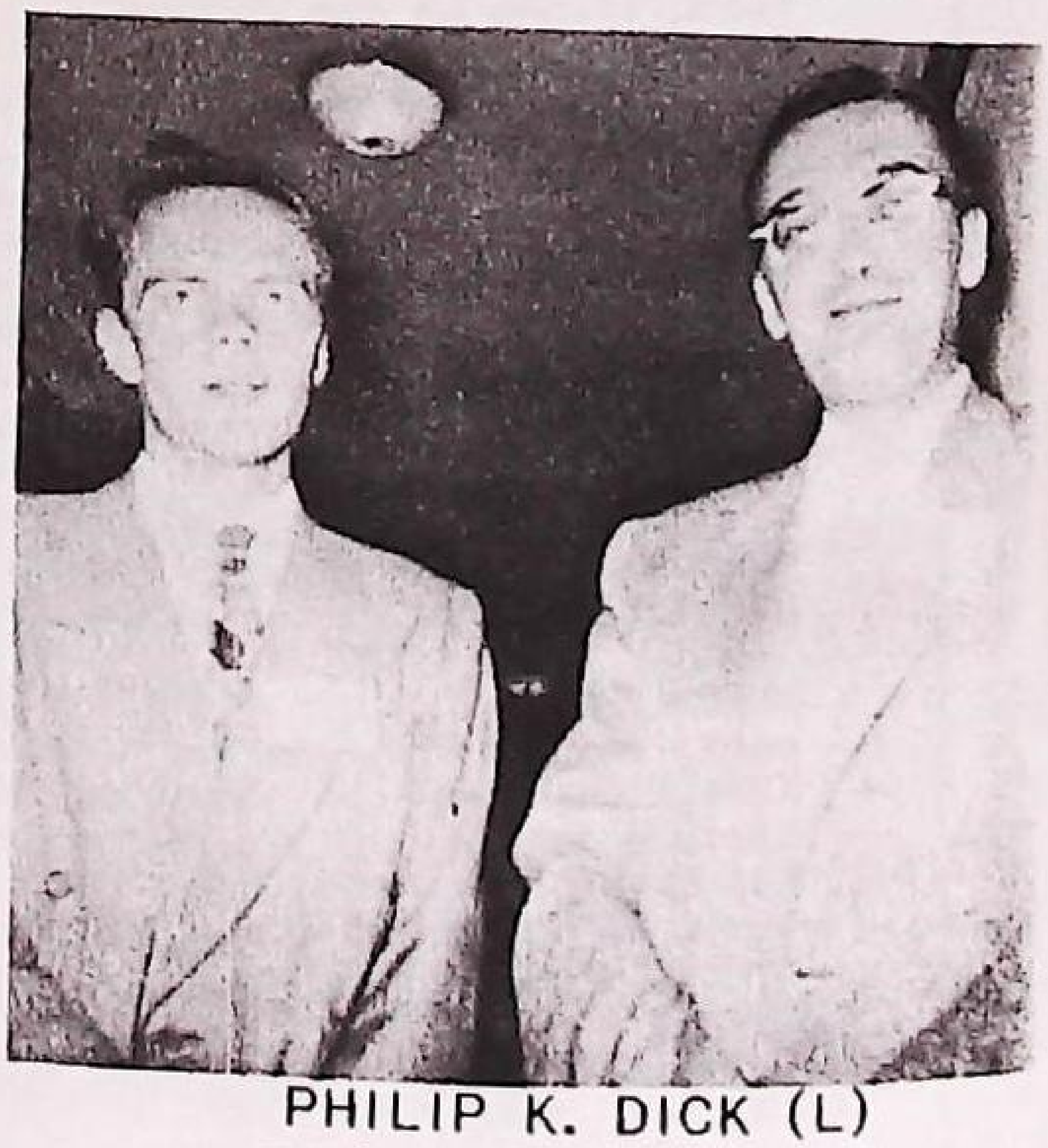

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MAGAZINE: THE NEW YORKER
DATE: 1 MARCH 1952
PAGES: 32-34, 36, 38, 40, 43-45, 50-53, 56-57.
SECTION: ONWARD AND UPWARD WITH THE ARTS
ARTICLE: NO LOBSTER MEN FROM NEPTUNE
AUTHOR: THOMAS WHITESIDE

ONWARD AND UPWARD WITH THE ARTS

NO LOBSTER MEN FROM NEPTUNE

WHILE browsing among the channels with my television set during the early evening hours of the past few years, I have found myself picking up from time to time this or that program for children. Until not very long ago, most of the programs in this category that I lingered with long enough to comprehend consisted of marionette shows and old cowboy movies. In recent months, however, I have gradually become aware that a change has taken place in the nature of the visual, not to mention audible, entertainment being offered our young people just before bedtime. A new element has been added—space. Now we have a vogue for dramas dealing with interplanetary travel centuries hence—shattering episodes involving screeching rockets, crackling ray guns, and plastic-helmeted adventurers. Because it seems to me characteristic of the headlong evolution of television that its programs for children, having galloped through the classic stages of puppetry and the nickelodeon, have now bounded far into outer space—and far into the future—for inspiration, I decided a while ago to find out how one of these cosmic dramas is produced. It was a rewarding investigation, which launched me into a world of secret codes, dinosaur tracks, and DDT bombs, and culminated, for me, with the disappearance of a turtle into a liberal helping of cold Wheatena.

Three major programs tailored along interplanetary-space lines are currently being broadcast over two of the major television networks—"Space Patrol," over the American Broadcasting Company; "Tom Corbett, Space Cadet," also over A.B.C.; and "Captain Video," over Du Mont. They are all serials. The action is supposed to take place in times ranging from the twenty-first century ("Captain Video"), to the thirty-first century ("Space Patrol"). The characters in "Tom Corbett, Space Cadet"—more audacious in point of time than those of "Captain Video," less so than those of "Space Patrol"—explore the solar system of four hundred years from now. Three times a week—from 6:30 to 6:45 on Mondays, Wednesdays, and Fridays—they soar to other worlds in rocket ships, ward off space pirates, utter exclamations like "Great Galaxy!" and "Blast me for a Martian mouse!," and on occasion, untrammelled by the force of gravity, gambol upside down in the heavens themselves. As a man not given to extremes, I decided, in choosing which of the three programs to investigate, to look into "Tom Corbett, Space Cadet"—not hopelessly prescient, but still hardly just around the corner. Accordingly, I called up Rockhill Productions, which produces the show, and was put in touch with Allen Ducovny, the man in charge of the program. I told him that I was interested in learning how a typical performance was put together, and, saying he'd be glad to oblige me, he invited me over to his place of business.

THE headquarters of Rockhill Productions are in a small office building on East Fiftieth Street, across from St. Patrick's Cathedral. The entrance to the building is of sombre and faintly ecclesiastical design, but the approaches to Rockhill Productions itself, on the ninth floor, are lined with glass brick and glow with modernity. Ducovny, a short, genial man who was wearing a conservative business suit and a conservative striped tie, received me behind this translucent honeycomb in a room with soundproof walls, dim lights, luxurious green leather chairs, and an awesomely hushed atmosphere. In one corner stood a movie projection screen, in the one opposite it a movie projector.

"This is our viewing room," Ducovny said, after shaking hands. "We use it for looking over odd bits of film that we are considering showing on 'Tom Corbett, Space Cadet' and for viewing kinescopes—motion-picture transcriptions of the program, that is—which we send to affiliated out-of-town stations to broadcast at whatever hours suit them best. We also use this room for story conferences. We'll be having a story conference here shortly—we're working up a new sequence—and I thought you might like to sit in on it. The production boys and I are going to kick around a few ideas with Willy Ley, the rocket man. Willy was one of the founders of the German Rocket Society; and, of course, he's probably the best-known authority today on the subject of space travel. He was *PM's* rocket expert during the war. He's also a naturalist, and that's a help, too. We've retained him as technical adviser for 'Tom Corbett.' We try to have the show as scientifically accurate as possible."

Ducovny paused, possibly in quiet tribute to scientific accuracy. Then he went on to say that "Tom Corbett, Space Cadet" is broadcast over about forty television stations affiliated with A.B.C., that it is sponsored by the Kellogg Company—the manufacturers of, among other things, Corn Flakes and Pep—and that it is a terrific success. "It is such a terrific success," he added, "that at the beginning of the year we put a two-times-a-week 'Tom Corbett' show on an A.B.C. coast-to-coast *radio* hookup. And since last fall we've been putting out a 'Space Cadet' comic strip, through the Chicago *Sun-Times* Syndicate. It's now running in eighty-four newspapers—here, in Canada, and even in England."

I asked how many people tuned in on the television program each week. "The viewers would run into the astronomical millions," Ducovny replied. He waited while I made note of this estimate, and then continued, "'Tom Corbett' is dedicated to stimulating the interest of the young in the possibility of travelling to other planets, a subject that has interested man as far back as history is recorded. Anything to do with space is fascinating to kids. They've heard about V-2s, they've heard about artificial satellites, they've heard about the plan—a German scientist broke all the papers with it only a short time ago—for travelling to Mars and back in two years and two hundred and thirty-nine days, in easy stages, with way stations established in permanent orbits around the earth and Mars. Kids are space-conscious. 'Tom Corbett' appeals to that space-consciousness by combining adventure and the

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nearly pure gold. Then they wanted a scientific way of handling the double cross by the space prospector's partners. Willy solved that one by having the double-crossers push the asteroid out of its orbit with the nose of their rocket ship and substitute a worthless asteroid in the orbit. The payoff came when the golden asteroid went into an elliptical orbit around the sun and got too hot for the double-crossers to handle."

Ducovny remarked that the writers never attempt to insert any action into the program that Ley feels is outside the limits of scientific possibility. "If the boys are thinking of flying through the tail of a comet, they check with Willy to make sure that it's possible to do so without serious damage to the rocket ship by stellar debris," he said.

At this point, Ley, a short, broad-shouldered man, entered the room, wearing a blue suit, and a blue tie on which was printed, in another shade of blue, the outline of a rocket. "I've just been downtown to check the layout on those models of Space Academy that the Marx toy people are putting on the market," he said to Ducovny. "The takeoff area seems to be pretty much in line with the design I roughed out."

After being introduced to Ley, I told him that we had been talking about his advice to the writers about stellar debris. "Ah, yes, space junk," he said. "The writers are always wanting their ship to *hit* something out in space. Thank God I've got them to stop hitting asteroids for a while. The probabilities of a space ship's encountering an asteroid in its path, you know, are so slight as to be negligible. The writers were overdoing it. They wanted to hit an asteroid practically every week. 'Please, boys,' I told them. 'Only once or twice a year.'"

I confessed to Ley that I didn't know much about rockets aside from the sort of thing I'd seen on television, and I asked him what kind of progress American rocket research was making toward interplanetary flight.

"Tremendous progress," Ley replied. "Today we have an altitude record of a hundred and thirty-five miles by a so-called single-stage rocket, the Viking. And we have the two-hundred-and-fifty-mile altitude record by the two-stage rocket built for Army Ordnance. In the imminent future, we can expect, without the development of any essentially new design, an orbital rocket—a three-stage job, whose final component would leave the earth's atmosphere and circle the earth like a satellite. Within a comparatively few years, we should be able to send an unmanned rocket to the moon in ninety-seven hours, but it would have to crash there. Manned rockets are considerably further off in time. The action in 'Tom Corbett' is set four hundred years in the future. Nevertheless, I have said repeatedly, and still say, that the manned interplanetary rocket will be a reality within only *two* hundred years."

Ley's predictions were cut short by the arrival of the writers—Willie Gilbert, a short, pleasant-looking man, and Jack Weinstock, a man of medium height, with a calm and authoritative manner. "Willie Gilbert works pretty much full time on our scripts," Ducovny told me. "Jack has a lot of other work to do, being a doctor with a large and lucrative practice."

This combination of literary and medical skills struck me as unusual, and I said so. Dr. Weinstock assured me that the explanation was simple. "I specialize in urology," he said. "I've also been a general practitioner, and I'm now house doctor for several of the Shubert theatres, backstage and up front—that is, I'm on call during performances. I've been writing little things on and off for years. Occasionally, I would get off bits of dialogue, and so on, for theatrical people who happened to be patients of mine, but I didn't start to write professionally until after I ran into Willie Gilbert. That was in 1946."

"We met when Jack was about to deliver my wife's baby," Gilbert said. "I was pacing the corridors in the hospital. Jack came out to calm me down. We talked, then met again and talked some more. We discovered that we were both involved in show business. I had my own vaudeville act at one time. It was called 'The Micromaniacs'—satirical comedy. As I say, Jack and I kicked the gong around."

"That's right," Dr. Weinstock said. "And as a result, we began to bang things out. We wrote a satirical ballet number for 'Tickets, Please!' and a raft of other things. We've sold practical-instead of on the one he was supposed to be looking at. Superman's strength, I gathered, proved to be his weakness in more ways than one. "Superman was great, but the difficulty was that we couldn't dream up antagonists worthy of him," Ducovny said. "Being as all-powerful as he was, no villain stood a chance of doing him in. Dramatically, he tended to lose momentum. He had no Achilles' heel."

Eventually, Ducovny said, the writers of the program decided that they would simply *have* to provide Superman with an Achilles' heel and devised one—a near-fatal allergy to kryptonite, a substance capable of robbing even Superman of his strength. The enervating stuff was inserted into the script shortly after the end of the war. The writers, in the interests of topicality, made kryptonite radioactive and unstable, and placed it in the hands of a Dr. Teufel, an equally unstable German scientist who was out to rule the world—and Superman, too. Ingenious as these touches were, though, the Achilles' heel represented, at best, a combination of the old stratagems of the distintegrator ray and the mad scientist, and, according to Ducovny, it could not be expected to restore a great deal of Superman's momentum. Superman went off the air in 1949—hoist, it would seem, with his own petard.

In the manner of a man who has learned his lesson well, Ducovny went on to explain how "Tom Corbett, Space Cadet" differs from its predecessors. "The basic appeal of 'Tom Corbett' is its realism," he said. "Our stories are not in the realm of fantasy. The action is within the limits of physical possibility. It has believability. No disintegrator rays. No mad scientists. No lobster men from Neptune. It is our policy to show the process of interplanetary travel, and the conditions on the planets we travel to, as accurately as science can today."

A YOUNG, athletic-looking man entered the room. He was in shirtsleeves and appeared, from his well-loosened collar and tie, to have been undergoing a strenuous period of creative effort. Ducovny introduced him as Albert Aley, the script editor of "Tom Corbett, Space-Cadet," and, after telling him the purpose of my visit, suggested that he try to outline the dramatic structure of the program for me.

After some thought, Aley said, "Put Frank Merriwell in a space suit and throw in 'The Three Musketeers,' and you'd be getting at the general idea. Merriwell and his sidekicks operated out of Yale. Corbett and *his* sidekicks operate out of the Spaceport, at Space Academy, in the year 2352. Space Academy is the West Point of the Universe. The Universe is at peace in 2352. Space Academy is the instrument of the Solar Guard, the peace-enforcement unit of the Solar Alliance. Earth people have colonized Mars, Venus, and Titan, a satellite of Saturn. Tom Corbett, along with two other Space Cadets and an officer of the Solar Guard, takes off in his rocket-powered space ship, the Polaris, to maintain peace on the colonized planets and to explore the possibility of colonizing others."

"The concept of peace is one that parents approve of," Ducovny said.

"No gore in this show," Aley said. "The only complaint we've had was when a stranger made his way to Earth from the planet Alcar. He wore fairly sinister makeup and perhaps he *did* look a little frightening. A few mothers wrote in words of gentle admonition, and we toned down the Alcarian's makeup right away. We lay off horror. So far, we've had only one death on the show, and i was accidental." This death occurred during a small-scale war on the planet Mercury, the twilight, or habitable, zone of which the Space Cadets were considering colonizing. "It wasn't even a war. More like a skirmish, come to think of it," Aley said. "The Mercurians had misinterpreted an inspection visit by the Space Cadets, and thought it was an invasion. In the scuffle that followed, one of the Mercurians collapsed and died, but we managed to patch up the trouble, and there have since been no untoward incidents on Mercury. We had a revolution on Mars, and we patched that up, too. The Martian commander was stealing the fuel of rocket ships belonging to other members of the Solar Alliance, hoping to build up a fuel monopoly for aggressive purposes. He was a Martian nationalist, the louse! We broke up the plot and let him escape to an asteroid."

Aley said that it was Willy Ley who had given the writers the idea of dispatching the Martian troublemaker to this bleak place of exile. "Willy has been enormously helpful to us," he went on. "For example, the writers wanted to make a space-opera sequence out of the old horse-opera deal in which a mossback prospector finds a gold pile and later gets double-crossed by his partners. The writers wanted this fellow to stake a claim to some precious mineral in space. Willy suggested that they have him discover an asteroid of

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very latest knowledge of the problems likely to be encountered in travelling to other planets. And, thanks to an electronic gismo in the studio control room that our director, George Gould, thought up, we are able to achieve trick effects on the screen, like free falls in space, that were hitherto impossible in television."

"Tom Corbett, Space Cadet" first went on the air, over C.B.S.-TV, in the autumn of 1950, a little more than a year after the début of "Captain Video." Ducovny indicated that the program was well received right from the start. "I'm glad to say that we've caught up with 'Video,' ratingwise, and even nose them out once in a while," he told me. "In fact, nowadays we're even taking the play away from cowboy movies. Horse opera is definitely slipping on television. Still strong, I admit, but slipping. These kid shows tend to go in cycles. Horse opera took the play away from puppets on television. Puppets took the play away from 'Superman' on radio, and 'Superman' took it away from the 'Jack Armstrong, All-American Boy' and 'Renfrew of the Mounted' type of radio shows."

"Six more strokes, lady, and then I'll have to ask for your decision."

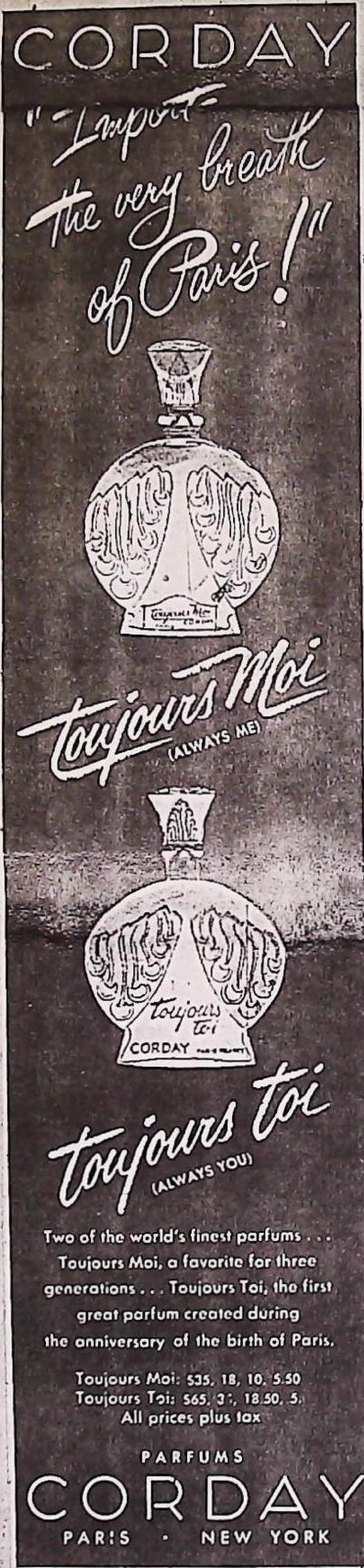
I asked where "Buck Rogers," a radio program I recalled hearing in prewar times, and that also involved space travel, fitted into the picture.

"I'd say 'Superman' took the play away from 'Buck Rogers,' too," Ducovny replied. "'Rogers' began on radio in 1932, and it had a pretty long run. Kellogg had it, Cocomalt had it, Cream of Wheat had it, and General Foods had it. I'd say the peak of its success came between 1933 and 1935, when Cocomalt had it. 'Rogers' tailed off during the war, I believe. Peter Paul candy tried to revive it for television on A.B.C. in '49, but they let it go after a little while. One of the big troubles that kind of program finds itself facing is that in the last few years youngsters have become pretty well aware of what science can do and what it can't do, so they're fairly critical on technical grounds of electronic razzle-dazzle in stories. 'Buck Rogers' went in heavily for disintegrator-ray guns and mad scientists. Kids will accept only so much of that nowadays."

The début of "Superman" on radio, in 1938, probably marked the first successful departure from the "Buck Rogers" tradition of electromechanical wizardry—in the field of interplanetary adventure, Ducovny told me. Ducovny himself was the director of "Superman" for a while in the early forties. One of the principal theories back of "Superman," he said, was that while sophisticated young listeners might feel that miracle-producing gadgets have little scientific validity, they might be willing to accept miracles made possible by the superhuman characteristics of the hero himself; thus, children might tend to question the scientific feasibility of, say, an airplane that could fly through walls, but be willing to accept the idea of a Superman resilient enough to swoop unscathed through a concrete abutment eight feet thick.

"'Superman' was a big success on radio," Ducovny said. "The Blue Network had tied up the five-to-six-o'clock block with adventure shows, and was trying to corner the kid market. 'Superman' stood alone on Mutual at five-fifteen, the only kid show in the late-afternoon Mutual block. As soon as Superman went on the air, he began taking the play away from Blue. Superman provided security for kids. He was omnipotent. He was indestructible. He could move planets out of their orbits. He had X-ray vision. He could travel faster than the speed of sound. Hell, he could telephone from New York to Los Angeles, bound over to L. A. ahead of the electrical impulse carrying his voice, and talk to himself long distance. The program developed such a pull that other shows began falling in line with the idea. Even Tom Mix went in for Superman-type adventures on the air for a time."

"Superman" did fairly well on the radio during the war, according to Ducovny, despite the fact that Superman himself had to be classified 4-F in case young listeners should start to wonder why he didn't whip the enemy singlehanded. The writers of the show accomplished this by having Superman flunk his Army physical by turning on his X-ray vision during the eye examination, with the result that he read off the letters on the sight-test chart in the next room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afraid of getting repetitious. We wanted to get out on a new planet. Al Aley brought forward the idea that maybe we ought to go right out of our own solar system and away into outer space. We asked Willy Ley what he thought of the idea. He applauded it. We asked him what we could expect out there. He said we could expect other solar systems. We continued the discussion, and out of it came the theory that there might be planets there that were pretty much like our own—even one resembling Earth in its prehistoric stage of development."

"We thought that might be a good way of working in some prehistoric animals," Aley said. "We once had a Venutian worm on one of our shows and it attracted a lot of interest. Anyway, we're agreed on sending Tom Corbett on a trip of exploration to some new planet that's a hundred million years behind Earth, evolution-wise, and still in an age when dinosaurs roam."

A FEW minutes later, Gould arrived, and the conference got under way. Ducovny opened the proceedings by stating that, for the forthcoming sequence, he thought he could get some trick motion-picture film from Hollywood of dinosaurs in action. Then, turning to Ley, he asked if he could suggest a likely astronomical setting for the kind of planet they had in mind.

"Modern astronomy generally accepts the theory that most stars of the main, or hydrogen-helium, sequence have planets, and we have approximately seven billion main-sequence stars in our galaxy alone," Ley said. "According to the law of probability, there *ought* to be something out there along the lines you want. I suggest you place it within the solar system of Alpha Centauri, which is comparatively close to our own solar system. Alpha Centauri is a main-sequence star of about the size of our sun, and it's roughly twenty-four thousand billion miles away."

The suggestion appeared acceptable to everybody.

"Willy will triangulate the position of the planet for you later," Aley told the writers.

"The way we see it," Dr. Weinstock said to Ley, "the blastoff from Space Academy will be pretty routine. No accidents this time."

"Good enough," Ley replied. "Don't forget to switch the artificial-gravity generator on *after* the takeoff, not before. You don't want to subject your men to the force of Earth gravity and artificial gravity at the same time. As a matter of fact, a thirty-foot-a-

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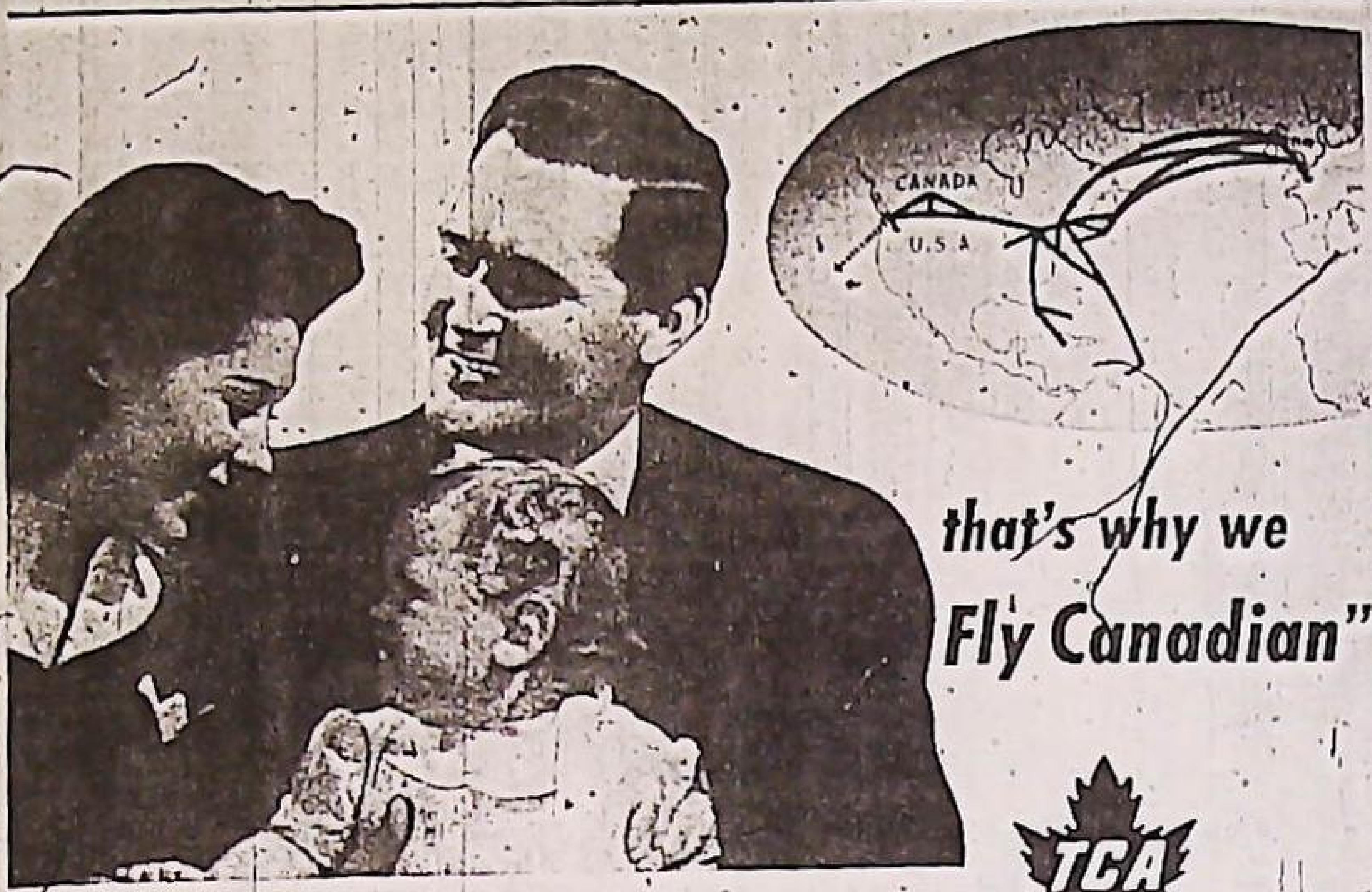

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ly everything we've written so far. None of this struggling-author stuff." He added that he and Gilbert had submitted their first "Tom Corbett, Space Cadet" script to Rockhill Productions about a year ago, and that they had been at it ever since.

"The boys made a hit from the beginning," Ducovny said. "Originally, we had five or six writers working on 'Tom Corbett.' Then Willie and Jack came in—collaborating with the others at the start and gradually taking over the whole job. For one of their first scripts, Jack invented a disease called space fever—it occurs when a space traveller is subjected to fluctuating pressures—and had it appear that one of the characters in the show was about to come down with it. That script jumped our audience rating several points."

I asked Dr. Weinstock if he would summarize the symptoms of space fever for me. "Low threshold of irritability, vertigo, and passing out at critical moments," he said.

"And Jack gave one of the boys anoxemia on the moon," Gilbert said. "Anoxemia is an illness caused by lack of oxygen. It made a swell sequence."

I asked Dr. Weinstock how he managed all this celestial medical activity in addition to his earthly practice. "It isn't easy," he said. "We usually work weekends, and sometimes week nights, too. Willie even comes up and waits outside the operating room till we can put in a few minutes together. Most of my patients don't connect me with television, even though my name appears in the program credit. In the waiting room of my office one day, I heard a mother tell her boy that if he behaved himself there, she'd let him watch 'Tom Corbett' that night. I didn't mention to her that I had anything to do with the show."

Dr. Weinstock and Gilbert excused themselves then and went into a huddle over some technical matters, and Ducovny told me that the production conference would begin as soon as Gould, the director, arrived. The purpose of the conference, he said, was to establish the basic setting for a new sequence, which was to run for about four weeks. At preliminary talks on the matter, Aley, the writers, and Ducovny had come to the conclusion that what Tom Corbett needed was a change of scene from his usual planetary rounds. "The writers agreed that we were temporarily up against a blank wall," Ducovny said. "We'd been to Venus, we'd been to Mars, we'd been to Mercury—the twilight zone of it, anyhow—and we'd been to Saturn and to Titan. We were

44

a drawer of his desk and pulled out and identified for me a Space Cadet Planet Guide, a Space Cadet Rocket Ring, a Space Cadet Army Badge, a Space Cadet Squadron Cloth Arm Patch, a Space Cadet *Magic-Moving* Picture Eye Takeoff Viewer, a Universal Space Pledge Certificate, a deed to an unspecified area of the moon's surface, and a phonograph record of "The Space Cadet Song and March," by the Space Cadet Chorus and Orchestra.

"Just a few of our promotional gimmicks," Davis said when I had finished examining these items. "Some of them we put in the Space Kit, a twenty-five-cent self-liquidating Kellogg box-top premium. Most premiums are self-liquidating, you know. Asking price just covers the cost of producing and handling. Some of the gimmicks, like the Space Cadet Rings, we give away in packages of cereal. We've got the green light from the Kellogg people on 'Tom Corbett.' What a sales medium! Do you know that even before this program came along the sale of Kellogg's Corn Flakes and Kellogg's Pep together represented about twenty-five per cent of all dry-cereal sales in the country? When you've got a product moving on that scale, it's almost impossible to get any program to make an impact on sales, but 'Corbett' has done just that. In fact, it's raised Pep and Corn Flakes sales a hundred per cent in certain areas. The client is hot. The Kellogg people feel that 'Corbett' is the best sales vehicle in the cereal market ever—bigger even than their 'Howdy Doody.' 'Howdy Doody' has Rice Crispies. 'Corbett' has Pep and Corn Flakes. K. & E. handles the Pep account, and the Leo Burnett agency handles Corn Flakes. On 'Corbett,' the two agencies handle the commercials in turn. Two weeks Pep, two weeks Corn Flakes."

I asked Davis how his promotional efforts had been received by the public. "Nicely, nicely," he said. "A while ago, we worked out a deal with the Hayden Planetarium by which we built them an Interplanetary Spaceport exhibit where people could make reservations for travel to the moon, and all. We also hope to fix up a display at the Planetarium showing how people will buy their cereal in 2352. We've come up with something called Spin and Eat, which is a bowl with Pep, milk, sugar, and dehydrated fruit wrapped in separate membranes—cellophane ones that in 2352 would be replaced by some substance that could be consumed with the cereal. You spin the spoon on top of the bowl and that breaks the membranes and mixes the ingredients. We've also been working with the United Nations publicity guys on an idea for getting kids together from all over—children of delegates—to talk about space travel and the world being at peace, and all. We haven't figured out all the angles yet, but the *Herald Trib* likes the U.N., and since they run the 'Space Cadet' comic strip, they ought to work along with us. Then, we're working on the possibility of having Kellogg salesmen wear Space Cadet uniforms when they call on grocery stores, which could be an angle. Just a little while ago, we arranged to present a special flag to the Air Cadet League of Canada, to be taken to the moon when the first Canadian airman lands there. *That* angle worked out nicely—lots of publicity. We had the flag made of nylon, and had it backed with stiff material, so it wouldn't hang limp. There's no wind on the moon, according to Willy Ley."

Davis went on to say that "Tom Corbett, Space Cadet" received a big boost during the Christmas-shopping season last year, when Gimbel's devoted a window to a replica of Tom Corbett's space ship, the Polaris. "Gimbel's had twenty-three Space Cadet items on sale throughout the store," Davis said. "It was a Space Cadet Christmas. We had another space ship—a huge one—made up for the toy section, and the kids could go inside the thing and see what it was like to take a trip to the moon. We had different characters from the TV show turn up for autographs and general stuff. Six thousand kids went through the space ship on the day it opened, and we arranged for Gimbel's to give away a hundred thousand Space Cadet rings and a hundred and twenty-five thousand boxes of Pep during the Christmas season. Gimbel's sold a lot of our Space Kits, too. Normally, you have to turn in a box top to get one; but in this case the kids could buy the kits *without* the box tops, as long as they pledged themselves to eat better breakfasts."

Davis handed me a partial list of Space Cadet merchandise. The items on it numbered around fifty and included, in addition to the paraphernalia he had already shown me, the Space Cadet Strat-O-Phone (a kind of walkie-talkie), the Space Cadet tie (it glows in daylight), the Space Cadet crash helmet, Space Cadet suspenders, and the Space Cadet rocket ship. "The rocket ship runs along the floor and shoots red and green sparks from its exhaust," Davis said. "It's very realistic. Willy Ley acts as scientific adviser on the design of a lot of our Tom Corbett mer-

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that looks like a pterodactyl, maybe?" Gould asked.

"I'm afraid not," Ley said.

"How about a bat?" Dr. Weinstock suggested.

"Entirely different wing structure," Ley said.

"Could we use snakes?" Aley asked.

"Snakes are a comparatively recent evolutionary development," Ley said. He gazed thoughtfully around the room, and then added, "You could always try to get a hatteria, a type of which existed in the Mesozoic and still exists today. You'd have to get it from New Zealand, though, and they're heavily protected there. Or you might get a Gila monster, in which case, of course, you'd have to arrange to have it defanged."

"Well, gee," said Ducovny, looking worried.

"Maybe we could get something from the zoo," Gould said.

"You might be able to get a turtle," Ley said. "A type of giant turtle existed in the Mesozoic."

"A turtle would be swell," Ducovny said, brightening up.

"Also, you might try to find yourself a nice crocodile," Ley said. "The modern crocodile, after all, is related to the Mesozoic teleosaurus."

"That *sounds* O.K., Willy," Ducovny said doubtfully. "The only difficulty there is that we want action in the show, and, frankly, most of the crocodiles I've seen at the zoo don't seem to do anything but just lie around. How could you get a crocodile to open his mouth on cue?"

"Dangle a fresh piece of beef in front of him, just out of camera range," Ley said.

A FEW days later, Ducovny called me up and invited me to the camera rehearsal—the equivalent of a dress rehearsal in the theatre—of one of the episodes that grew out of these deliberations. On my way over to it, I stopped in to see Hal Davis, a vice-president of Kenyon & Eckhardt, which is one of the advertising agencies that represent the far-flung interests of the Kellogg Corporation. Davis, Ducovny had told me, is the man who "promotes" the "Tom Corbett, Space Cadet" program. As I was far from sure of just what promoting a program involves, I thought I might as well find out from Davis himself.

"It involves several things, as I began learning a minute or so after Davis, a round-faced man of robustly cheerful appearance, received me in his office. I had scarcely sat down when he opened

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second takeoff acceleration happens in itself to be a sufficient substitute for Earth gravity."

"Anything special in the way of supplies?" Gilbert asked.

"Apart from the usual oxygen masks, and so on, I suggest you provide the crew with a good supply of pemmican," Ley said. "Cakes of soap will do the trick. They look like the real thing. Incidentally, I wouldn't use food pills. Some other space show has been feeding its crew food pills, and anyway they couldn't possibly work. The average man needs at least two pounds of starches and proteins per twenty-four-hour period."

Gould, who had apparently been deep in thought, turned to Ley and asked, "How far is this Alpha Centauri, again?"

"Four and a third light-years," Ley told him.

"I was just wondering—isn't it true that the speed of light is the fastest you can go, even theoretically?" Gould asked.

"That theory has been punctured time and again, and is self-contradictory," Ley replied. After a moment of reflection, he went on, "We'll be obliged to take some liberties with the time factor, of course. Maybe the best way to handle the problem of just how long it would take to reach the planet would be to pretty much ignore the time factor. We could just equip the space ship with something we might call Hyper-drive, and let it go at that."

The writers seemed quite willing to let the Hyper-drive dispose of the time factor, and the discussion turned to the question of what sights, apart from dinosaurs, Tom Corbett and his companions might be expected to encounter on the new planet. Ley said they could expect a rugged terrain of sheer cliffs, thick jungles, and mud flats, and perhaps occasional geysers of methane gas.

"But what other *monsters* could we use?" Ducovny wanted to know.

"The dominant forms of life in the Mesozoic Age on Earth, a hundred million years ago, were reptilian," Ley said. "Mammals did exist, but most of them were small marsupials. There were birds, too, but I think you'd better concentrate on reptiles."

"I know where I can get my hands on some salamanders," Gould said. "Would they be all right?"

"Salamanders are amphibians, not reptiles," Ley told him. "Their young breathe water. And I'm afraid their legs wouldn't resemble anything in the Mesozoic Age."

"Is there anything around these days

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chandise, as well as for the show. By the way, did I give you the Tom Corbett Space Cadet Secret Code chart? We're beginning to get letters from kids written in the Tom Corbett code."

THE broadcasts of the "Tom Corbett, Space Cadet" program have been originating in a studio on the top floor of a building on West Fifty-seventh Street. A victim of Davis's generosity, I arrived at the building to attend the camera rehearsal laden down with Space Cadet planet guides, takeoff viewers, and rocket rings, and met Ducovny in the hallway on the ground floor, where he was supervising the arrival of some canvas flats for scenery. It required several elevator trips to get them all up to the studio, and while we were waiting, Ducovny told me that earlier that day the actors had gone through their preliminary paces in the auditorium of the Village Presbyterian Church, on West Thirteenth Street. Television producers, he explained, are plagued by a lack of space for rehearsals, and this shortage had obliged Rockhill to turn to the ministry for help in housing the "Tom Corbett, Space Cadet" preliminary runs. As for the finished performances that go out on the air, and dress rehearsals of them, such as the one I was going to see upstairs, he said, A.B.C. had been fortunate in being able to lease, on a part-time basis, studio facilities owned by the School of Radio Technique, an organization that trains people to be broadcasters.

"A.B.C. has several kinescope duplicates made of each episode of 'Tom Corbett' to take care of out-of-town distribution," Ducovny said. " 'Corbett' goes on the air at six-thirty in the New York area—parents let their kids view television considerably beyond the five-to-six block usual on radio, you know—but other stations, farther west, where the time is different, don't want it that early, and that's where kinescopes come in. Kinescopes are pretty expensive, so we bicycle the prints to them. 'Bicycling' is a term that originated in the nickelodeon days, when one film print travelled right around the circuit, being rushed from one movie house to another by bike messenger. A.B.C. usually bicycles our kinescopes by Air Express."

The last of the scenery had been dispatched, and Ducovny and I took the elevator up to the studio, a large room with a great clutter of lights and scaffolding overhead, under which cameras were being wheeled around on dollies, long microphone booms were waving about in the air like oversize fishing poles, and stagehands were rushing this way and that, all to the accompaniment of a great deal of hammering. In the center of the room artificial jungle vines hung from a scaffolding near the ceiling and spread along the floor. No actors were in sight, but I spotted Gould standing deep in the interior of the jungle. He emerged after a moment and began dispersing with a few kicks a number of rocks—made of cork, I guessed from the way they tumbled around—that a stagehand was emptying from a big carton. In front of the vines, in the middle of a more careful arrangement of rocks, the outline of a large reptilian footprint had been painted on the floor. At one side of the room stood a model—about twenty feet high, made of plywood, canvas, and cardboard, and painted gray—of the fins, the jet exhausts, and what appeared to be the tail entrance of a rocket ship. Across the room stood another model, this one of the pilot's compartment at the nose end of the ship.

Ducovny had hurried over to a man in overalls who was standing at a table near the pilot's compartment. I went to join them, stepping over coaxial cables that twisted everywhere, like exposed roots of trees.

"I tried Farina earlier, but it was too lumpy," I heard the man in overalls say to Ducovny as I approached.

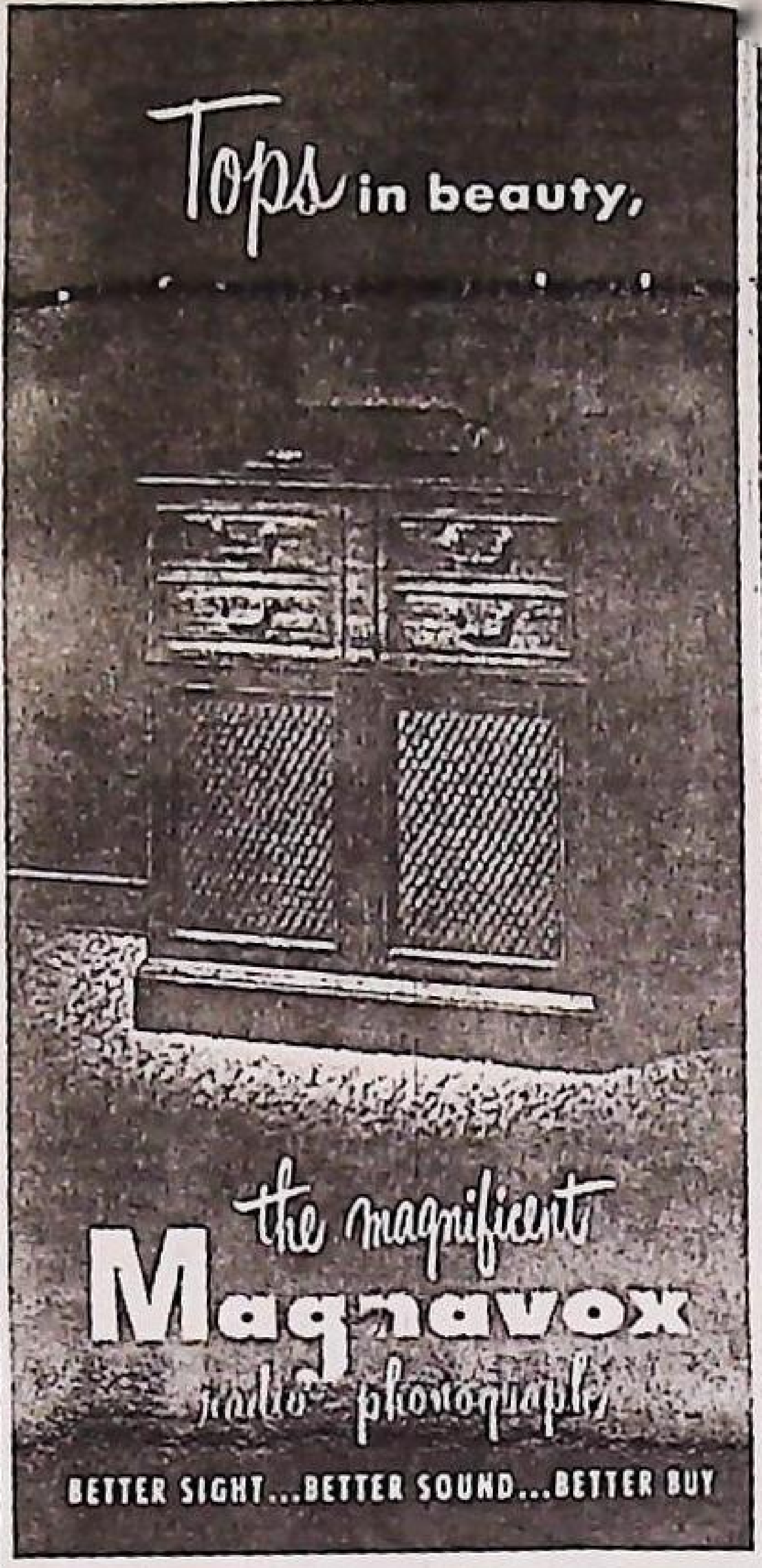
Looking over Ducovny's shoulder, I saw on the table a shallow tray. It was filled with a pale-brown gelatinous substance, and a half-empty box of Wheatena stood next to it.

"This fellow is one of our prop men," Ducovny explained to me, "and the stuff in that tray is the mud flat that Willy Ley suggested we find on the planet. Wheatena." He then asked the prop man whether the cereal had cooled off. The prop man said it had. "Very well," Ducovny said. "The turtle, please."

The prop man picked up a tin box and extracted from it a turtle about two inches long, its head, legs, and tail all drawn up into its shell. I said that it seemed a bit on the small side for a Mesozoic specimen. "Oh, we'll just shoot him in a close closeup and blow him up to any size we want," Ducovny assured me, and said to the prop man, "Put him in."

The prop man placed the turtle on the surface of the cereal. The turtle extended its head from the shell, and after a languid glance at its surroundings, burrowed into the Wheatena and disappeared. "Fish him out!" Ducovny cried.

While the turtle was being recov-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ered, Ducovny moved on to another table and inspected a miniature set representing rocks surrounded by foliage. This, he told me, was the lair of the crocodile recommended by Ley. In a moment I spotted the crocodile, a three-inch Mississippi alligator, lying peacefully on a paper rock and basking in the rays of several Klieg spotlights. The alligator was evidently about to be given the close closeup treatment by a television camera that had been dollied up to within six inches of its jaws. "O. K., Joe. Let's see your teeth," a cameraman said coolly to the reptile as he adjusted his focus. Ducovny asked another prop man whether the animal had been showing any signs of life. "Sometimes he blinks his eyes, sometimes not," the prop man said. "Sometimes he moves, sometimes he freezes. I don't know that you can depend on him."

This news seemed to disconcert Ducovny. "Maybe we'll have to try a salamander, after all," he said to me. "I know its legs aren't right, but it might turn out to be a hell of a lot friskier. Gee, we want *action!*"

I asked Ducovny whether he had managed to obtain the dinosaur motion-picture film. He said that he hadn't, and that instead he had ordered several small plaster models of dinosaurs from a prop-rental shop.

I remarked that I didn't see how he could expect much action from plaster dinosaurs, and he said, "Lack of action is no problem in their case, I'm happy to say. You see, we've just rearranged the script so that when the dinosaurs come on the screen, they'll appear to have been frozen in their tracks by the boys' Paralo-Ray guns."

"Ray guns?" I said, surprised. "I thought you didn't use rays."

"We don't use *disintegrator* rays," Ducovny said. "Paralo-Rays are different. They don't disintegrate anything—they just paralyze."

Ducovny then took me on a tour of the studio to examine some of the other props. These included a dirty tennis ball, which, suspended from an easel by a thread, would represent a planet; an old Edison Voicewriter with a roll of paper in it, which would represent an electronic machine at Space Academy that automatically typed out oral reports relayed to it from space by radio; and a pile of switches and magnetic coils, handily mounted, Ducovny explained, for ready attachment to anything around the studio that might need an extra-electronic touch. Stopping beside a small model of a rocket ship, Ducovny showed me a DDT bomb concealed behind it. "We use this model for shooting takeoffs and landings," he said. "You get a swell white blast from the DDT bomb that looks like the real thing. Once we tried out a perfume bomb for a takeoff scene, because it had a nice dense spray, but the actors yelled one minute and we had to go back to DDT. And *that* doesn't smell too good, either."

We moved behind the scenes, and Ducovny showed me a Space Cadet dress uniform, which was a heavily padded, blue-gray affair lavishly embellished with brass studs, and a pressurized Space Suit, which was a pair of cerise-colored, balloonlike coveralls topped by a large Plexiglas dome and a spiral antenna. "We won't be using the Space Suits today," he said. "The boys have landed on the Alpha Centauri planet, and the atmosphere is breathable except for a little [illegible] gas here and there."

Returning to the set, we [illegible] model of the pilot's compartment, or, more accurately, of the space ship's control deck. Ducovny pointed out its essential features—gravity generator, cutout relay, hatch leading to the radar bridge, and hatch to the power deck—and went on to say that while this particular prop normally represented the control deck of the Polaris, it was also used, on occasion, to represent the control deck of the Orion, a sister space ship, whose passengers sometimes include the only female character on the program—Dr. Joan Dale, Doctor of Space Medicine at Space Academy. I asked him whether any romantic entanglement between Dr. Dale and Tom Corbett or some other member of the Corps was permitted in the plot, and his reply made it clear that sex has no place in space opera. As the cowboy movie hero sometimes is allowed to kiss, in unobtrusive fashion, the nose of his horse, so the hero of the space program may once in a while pat the nose of his rocket ship, and even refer to it affectionately as "old girl," but that is as far as things are allowed to go in that direction.

The actors had now arrived. Ducovny introduced them—Frankie Thomas, Al Markim, Jan Merlin, and Ed Bryce. As usual, Thomas was to be Tom Corbett, and the rest were to be his co-adventurers. No Dr. Dale today.

Thomas, like the others, was dressed in light-gray Space Cadet fatigues. He also wore a wide leather belt to which were attached an oven thermometer, a five-inch-long metal tube, an underwater swimming mask, a soldering iron with a transparent Lucite muzzle and with spiral springs decorating its barrel, and a miniature hammer, like the ones

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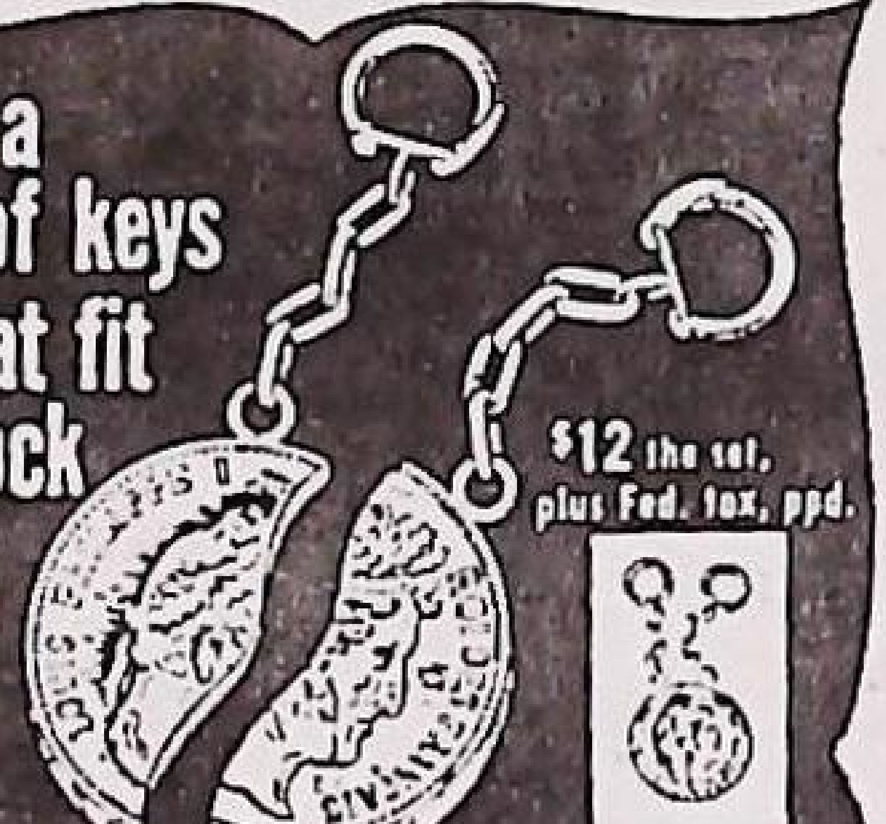

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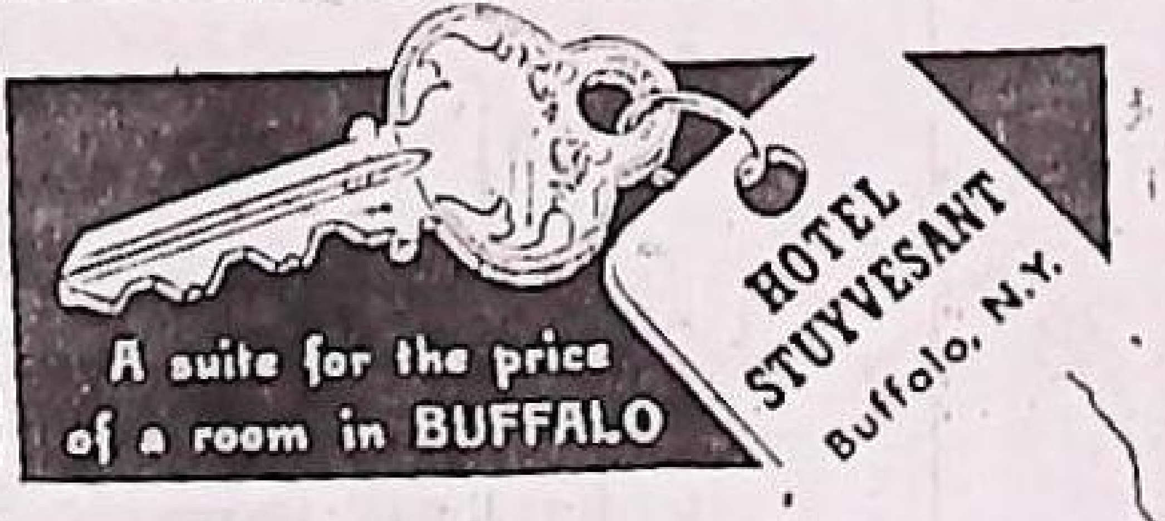

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used to break the glass of fire-alarm boxes. Aside from the hammer, the significance of which, I discovered, nobody connected with the program could explain, these accoutrements represented, respectively, a Geiger counter, an electroscopic magnifier, an oxygen mask, and a Paralo-Ray gun.

It appeared that the actors had been having trouble with the Paralo-Ray gun. "Couldn't we have lanyards, like M.P.s, to secure our guns?" Thomas asked Ducovny. "They're liable to fall out of the holsters when we're in action. These Lucite muzzles are always dropping off the barrels, too."

"We'll get you new guns," Ducovny said indulgently.

Appeased, the actors walked off and began their rehearsal. The Mesozoic explorations of Tom Corbett and his crew evidently were beginning to bear fruit. The actors crouched around the big footprint painted on the floor.

"Great rings of Saturn!" one of them exclaimed. "What do you make of it, Tom?"

"Looks like a footprint to me," Tom Corbett said.

With that, a roar of wild beasts burst from a loudspeaker overhead.

"Great Jupiter!" another Space Cadet cried, jerking his soldering iron from its holster and aiming it. As he aimed, a series of ominous crackling and buzzing sounds rose above the din from the loudspeaker, and then the roars died away.

"Great Galaxy! A dinosaur!" Tom Corbett said, peering into the jungle. "Thank Jupiter those Paralo-Rays took effect!"

"O.K., folks, commercial," Gould's voice said over the loudspeaker.

An announcer launched into a talk about better ways of building up "more punch 'til lunch." When he was through, the loudspeaker began emitting the sound of twittering tropical birds.

I spotted the sound booth near the top of a spiral staircase, and made my way up there. The sound man, sitting by his spinning turntables, was eating an apple. With his permission, I looked at the labels of some of the sound-effect records used from time to time on the program. These included "Earthquakes and Avalanches," "Explosions, Single and Multiple," "Herd of Elephants Trumpeting," "Hippopotamus Calling Mate," "Grimalkin Cat," "Two Leopards Snarling," and "One Dog Howling." There was also a musical recording entitled simply "Ghostly-Romantic."

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I returned to the studio just as Gould's voice came over the loudspeaker saying, "Quiet, please! Let's have the camera on that dinosaur again."

"Yes, *sir*," one of the cameramen said and swivelled across the floor with his dolly toward one of the models.

"No, no!" Gould said sharply. "Not *that* dinosaur! The one [illegible] neck—the brontosaurus!"

"Jeez, there are so damn *many* monsters here today," the cameraman said softly as he wheeled around and started toward another miniature set.

Now the cast was ranged in front of a black curtain as if ready for action. A six-foot ladder, draped in black, stood nearby. Tom Corbett climbed the ladder, paused for a moment at the top, and jumped to the floor. I asked Ducovny what this activity was supposed to represent. "To tell you the truth, in this kind of trick setup the actors *themselves* often don't quite know what they're doing until they see the kinescopes of the actual performance afterward," he said. "In this case, Tom Corbett happens to be jumping down from the paralyzed dinosaur's back. You see, we just dub in the dinosaur from another camera, with that electronic gismo I was telling you about."

"All right, folks, on to the mud flats!" Gould called over the loudspeaker. "Where's that giant turtle?"

"He's lost himself in the porridge again," a prop man said, groping glumly in the Wheatena with a spoon.

—THOMAS WHITESIDE

•

Are you getting mud out of your water tap today?

Just strain it through a sock, put the mud in the garden and drink the water—it's perfectly safe.—*Los Angeles Mirror.*

Sure, but who wants a muddy garden?

•

LONDON—APL 1016—2-9-52 . . NO ONE EVER SHOUTED "GOOD OLD ALBERT" TO THE BEARDED HUSBAND OF VICTORIA, BUT PLENTY OF PEOPLE HAVE SHOUTED IT TO THE EASY-GOING, DEBONAIR PHILIP.—*A.P. dispatch received by N.B.C. television newsroom.*

Drunk, probably.

•

He waved a long amber cigarette holder in her direction, and her thunderous eyes, searching the crowd, incredulous of what they could not find, came over to him, sulkily, like a puppy who has had a tin can tied to its tail and is still mad.—*From a story by I. A. R. Wylie in This Week.*

That's the last time *he'll* wave at anybody.

SPACE CONSULTANT

Willy Ley, the rocket man, is swamped these days with calls for data on gravity substitutes and life on Mars

by John Brooks

OLGA LEY

In the library of his home Willy Ley looks up the answer to a question on space travel

ONE of the busiest consultants in New York this autumn is Willy Ley, probably the world's best-known authority on rockets, rocket ships and space travel. Anyone who might think of such an occupation — that is, being an expert on a mode of travel that doesn't exist — as barren and unprofitable would be making the error of reckoning without the forward-looking qualities of the American public.

Scientists, book and magazine editors, lecture agents, television producers, manufacturers, government representatives, and — by no means least in number — ordinary citizens beat a path to Ley's door, telephone him day and night, and swamp him with mail. Ley, more affluent and also more harassed than he was during the long years when nobody would listen to him on his favorite topic, matter-of-factly dispenses information about gravity substitutes and life on Mars to everyone from the sober readers of "The Technology Review" to the younger but equally serious-minded addicts of the television program "Tom Corbett, Space Cadet."

I learned these things about Ley on a recent Saturday morning when he wedged me in, for a visit, between a brief night's sleep and a plane departure for a lecture in Boston. He lives with his Russian-born wife, Olga, a ballet dancer, and their two daughters, Sandra, eight, and Xenia, five, in a two-story stucco house that he recently [illegible] When I arrived, it was Mrs. Ley who let me in. Her husband was on the telephone.

NOV 16 195

"About 36 hours," he was saying. "That is, assuming the oxygen is in liquid form, stored outside the space suit, and that the body heat of the wearer is utilized in a heat exchanger to evaporate the oxygen for breathing."

Ley, a stocky, gray-haired man with heavy horn-rimmed glasses and a German accent, hung up and came into the living room, which is designed to emphasize present comfort rather than future exploits: red curtains, a piano, a rubber plant, a carved chair.

"Excuse me," he said, settling himself into a stuffed sofa. "Somebody wanted to know how long a man's oxygen supply would last if he were adrift in a space suit. I was telling him."

The telephone rang again, and this time Mrs. Ley went to answer it. "My wife acts as my secretary," Ley said. "Strangers telephone a dozen times a day, on the average. Two or three times a day, boys who are about to graduate from high school want to know where to go to study rockets. Once a week the question is: What are the flying saucers? My answer is: I don't know."

19-Hour Day

I ASKED Ley to give an account of a typical day of his. He began flipping through the pages of a pocket-sized notebook. "Let's see," he said. "Here's one day last month. Up at five o'clock and into Manhattan to be on the early morning Dave Garroway show. After the show I had hoped to go back to bed, but it wasn't to be so. At mid-morning, I discovered, I had to be at the Hayden Planetarium for a conference about their symposium on space travel."

At this point, the recital was interrupted by the reappearance of Mrs. Ley from the telephone. "Just another volunteer for the first rocket trip," she said, in a weary, workaday tone.

Ley nodded philosophically, and thanked his wife. "We get that all the time," he told me. "Usually it's young people, but recently a very old man called. Said he felt he'd outlived his usefulness, so they might as well shoot him off to the moon as anybody else. Out of every three volunteers, one is a girl. 'I know I'm only a girl, but —' they always begin. No need to apologize — space travel is for everybody!

"Well, to resume. I had lunch that day with a television producer interested in space problems. At three p.m., I went to the American Broadcasting Company studios to make tape recordings of two of my Sunday night talks, called 'Looking into Space.' I give facts and answer questions. At five p.m. —"

Mrs. Ley was at the hall door again, with another telephone message. "It's a table manufacturer," she said. "He says he's built a light magnesium table, and he's asking you to endorse it for use in the drafting room of a space rocket."

A severe expression crossed Ley's normally affable features. "Please inform the gentleman," he said sharply, "that von Braun and the other scientists are quite capable of designing tables for their own rockets. No endorsement."

Cadet's Corpses and Crack-Ups

MRS. LEY nodded and left. "At five p.m.," Ley said, composing himself, "I had a semi-business meeting with Heinz Haber, an old friend of mine who used to be with the Air Force's Department of Space Medicine, at Randolph Field. For once, my evening was free. I went home and answered mail until midnight. That's about all, I guess."

Such a day — beginning at five and ending at midnight — did not appear to leave much time for sleep.

"Well, it isn't so bad now that 'Tom Corbett, Space Cadet' is off the air for the time being," Ley said. "When that's on, we're *never* sure of sleep. You see, I'm technical adviser — supposed to furnish detail and check accuracy — and the writers have a habit of working until all hours.

"Here's what happens. It's one-thirty in the morning and the phone rings. I rouse myself to answer, and there they are — the writers. 'Willy?' they say, 'If you found a corpse in space, what would be its condition?' I yawn a couple of times and reply, 'Where in space?' Inside the orbit of Mars it would be decayed. Outside Jupiter, frozen solid.' They thank me, and I hang up and go back to sleep.

"In no more than half an hour the phone is ringing again. The 'Space Cadet' writers. 'What is it now?' I ask. They want to know something that can cause a space ship to crack up. 'Malfunction of gyro ecliptic,' I say. 'Now please, boys, let me get some sleep.' Oh, it's a strain."

As Ley finished saying this, the morning mail arrived — a batch consisting of four or five publications, one book, and a sheaf of 10 or 15 letters. He tossed me a couple of the latter.

"Dear Mr. Ley," I read in one from Minneapolis. "My boy friend and I are planning to make a tape recording of the dialogue on a rocket flight from Earth to Moon. . ."

Another began: "Suppose I take a clock to 61 Cygni, using an average speed close to c. I am restricted, of course, to finite acceleration. . ."

This odd sort of fame has not been Willy Ley's lot for long. He was born in Berlin in 1906; studied geology, astronomy and physics until his education was interrupted by the post-war German inflation; and at the age of 20 came across Hermann Oberth's book on space travel, one of the first scientific treatments of the subject.

Immediately bewitched, he got in touch with Oberth, and they, with some other young German scientists, formed the Society for Space Travel. (With Teutonic stolidity, the Court of Registry in Breslau, where the Society was incorporated, at first objected to the name on the ground that *Raumschiffahrt* — space travel — was a nonexistent word.)

The Society got some small grants, and in 1931 its first fuel rocket got off the ground and ascended one mile. One of the proud inventors was a young man, introduced to the Society by Ley, named Wernher von Braun. If Ley was to become the leading popularizer of rocketry, von Braun was to become its first great creative genius: he headed the Peenemünde project that created the German V-2 rocket.

"All the while, naturally, I was holding a job in an industrial firm to make a living," Ley told me. "In January, 1935, after it became clear that Hitler was going to stay in power, I left Germany, and a month later I came to the United States at the invitation of the American Rocket Society. I immediately began trying to talk people into investing in rocket research. No one had the slightest interest in the subject except sicence-fiction magazines. I made a precarious living as a writer on other branches of science, including zoology. My most successful book was 'The Lungfish, the Dodo and the Unicorn.'

"Then came wartime. I was rocket expert for 'PM,' and the government called me in for consultation once in a while. They still do, but I can't talk much about that.

"The big boom hit me all at once. It happened in November, 1944, the day the first V-2 strikes on London were announced. For years I'd been plaguing newspapers all over the country to print stuff on rockets, but they hadn't done it. Now rockets were real. I spent eight hours that day on the phone from Atlanta, where I happened to be, talking to London, New York, San Francisco. It was like a stag hunt — suddenly I was surrounded by baying hounds. They've been baying pretty much ever since."

Lunar Ambition

WAS the clamor entirely for information, I wondered, or did some of Ley's correspondents raise moral questions?

"Just one, that I remember," Ley said. "A minister of a church in Maryland — one of the smaller Protestant denominations, I forget which — called long distance a year or so ago, and told my wife, who answered the phone, that the idea of space travel was sinful. It seemed to be a question of whether men have any business going under their own steam up into the celestial heavens. Can you get to heaven in a rocket ship?

"The best Olga could say was that the matter had never come up before. Since then I've talked to an expert on comparative religion, trying to figure out what denomination that fellow represented. My expert said that as far as he knows there isn't a prohibition of space travel in any sect's credo, so it must have been a private opinion."

Ley consulted his watch. "Almost time to leave for my plane," he said. When I inquired whether he likes flying, he nodded vigorously. "I fly whenever I can. I like the view, and I'm intrigued by the idea of lunch in Chicago, dinner at home. However, the sensation of airplane flight is nothing like that of rocket flight. An interplanetary rocket ride is far, far smoother. Oh, if I could live to rise to the moon! If I were Sandra's age, I might."

Ley sighed, and Mrs. Ley came in from the telephone again. "A call from the Garden Club of New Rochelle," she reported.

"Did you say *garden* club?" Mr. Ley asked.

"Yes. They felt rocket ships are something they should know about. Unfortunately, they didn't want to pay. They offered to serve you a good dinner. I told them," Mrs. Ley finished definitively, "that you were already going to get a good dinner."

The End

Herald Tribune, N.Y. N.Y. 16 Nov 1952

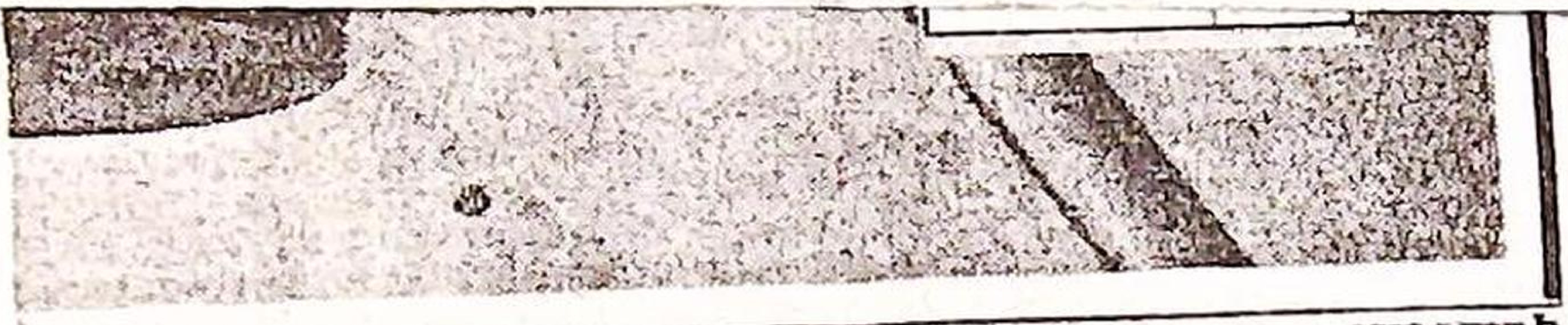
Willy, whose family were wine merchants and Lutheran Church officials, found Hitler distasteful and left Germany in 1935. He became a U. S. citizen, married a former ballet dancer, and now has two daughters. He teaches them how to play the piano, at which he's excellent. When he first arrived here, Willy worked as a writer, a consultant to the Office of Technical Service in the Dept. of Commerce, and for four years, was a research engineer at the Washington Institute of Technology, where he tested new liquid fuels for rockets. Wherever he worked he never ceased trying to make rockets popular.

"Rockets are respectable now," he says. "Von Braun produced the V-II with a 200 mile range. The Navy's Viking can go up to 300 miles carrying a one-ton warhead, which is what an atom bomb weighs. And there's another rocket with a top speed of 5,400 miles an hour, which means it cannot be intercepted."

Every country is now working overtime on rockets, for peaceful as well as military purposes. For war the rocket's best application is in anti-aircraft defense to keep cities intact and factories operating. But more and better AA rockets are needed.

How about the Russian rockets?

"Von Braun insists that the Russians got only one man from the Peenemunde group," Willy says. "A few went to France. The rest are here. But rockets are no longer complex, and the Russians have competent engineers, and should do well. But they haven't been at it as long as we have. How you make a dress is no secret. But to make it well is something else."



N.Y. Mirror 21 Sept 1952

Only Human

By SIDNEY FIELDS

WILLY LEY: ROCKETS ARE NOW RESPECTABLE

THE U. S. Navy has just proved that guided missiles are fact, not fantasy, and now Willy Ley, one of the foremost authorities on such subjects, says we're on the verge of space travel too. Willy and four other experts have blueprinted a space ship with 50 to 75 motors that can reach up to 1,000 miles, whip along at 18,000 miles an hour, circle around the earth as long as the captain wants it to, and then return here.

"It's as practical as a C.O.D. package," Willy says with complete assurance. "If we want to pay for it, it can be built in ten years—at a cost of about $400,000,000 a year."

Details of the new space ship are outlined in a forthcoming book, "The Space Frontier," written by Willy, Prof. F. L. Whipple of Harvard; Dr. Heinz Haber and Prof. Joseph Kaplan of the Univ. of Calif.; and Wernher Von Braun, now in the U. S. Army, but once director of the Peenemunde Institute, where the German V-II Rocket was built. They all agree their space ship couldn't travel to another planet and return, which would require refueling in air from space platforms; and they're a long way off. Could the flying saucers be space ships from other planets?

"They're probably travelling mirages. Saucers were seen 200 years ago—before the plane was invented. And no one has ever seen a flying saucer below him, which means they're reflections. If they were truly space ships from another planet, they could be seen from any direction."

Willy has been trying to popularize rockets, missiles, and space travel for a generation. He lectures and writes on them, is science editor of Galaxy Magazine, and the author of seven books, including "Bombs and Bombing," "Shells and Shooting," "Conquest of Space," as well as "The Lungfish, the Dodo, and the Unicorn." The last book is the result of his studies in paleontology, in which he took a degree at the universities of Koenigsberg and Berlin.

For Fireworks First

His volume "Rockets, Missiles, and Space Travel," published in 1944 and recently enlarged and revised, is an astonishing peek into the past, present, and future of push-button war and travel.

The Chinese first invented a rocket in 1200—for fireworks. Rockets were mentioned in Cologne, Germany in 1256. In 1804 Gen. Sir William Congreve developed one with a three mile artillery range, which when fired at Fort McHenry in 1812 gave birth to the line, "The rocket's red glare." And the British burned the White House the same year by stuffing rockets into its cracks. Better artillery made the Congreve rocket obsolete, and rockets died until World War II.

"When smokeless powder made them safe," Willy says. "The chances of blowing up instead of going up then became one in six. America, England, and Germany began to make big rockets. The ones the Russians used at the battle of Stalingrad were made in Tennessee."

Willy's interest in rockets dates back to 1927 when he was a student, bent on becoming a geologist. He then read about the World War I experiments of an American, Robert H. Goddard, and a German math teacher, Hermann Oberth, who, working independently, first used liquid fuels to power rockets.

"It was a revolution equivalent to the difference between the horse and the auto," Willy says, "and from then on I was a rocket man. I helped organize the German Rocket Society, and in 1929, three years after Goddard built his liquid-powered rocket, we built one. A year later a new student joined us—Wernher Von Braun. Hitler drafted him shortly after."

The Expert Flees

Willy, whose family were wine merchants and Lutheran Church

↑ N.Y. N.Y. Mirror 21 Sept 1952

ONLY HUMAN

By Sidney Fields

NEWS JUL 2 - 1965

Lunar Light in His Eyes

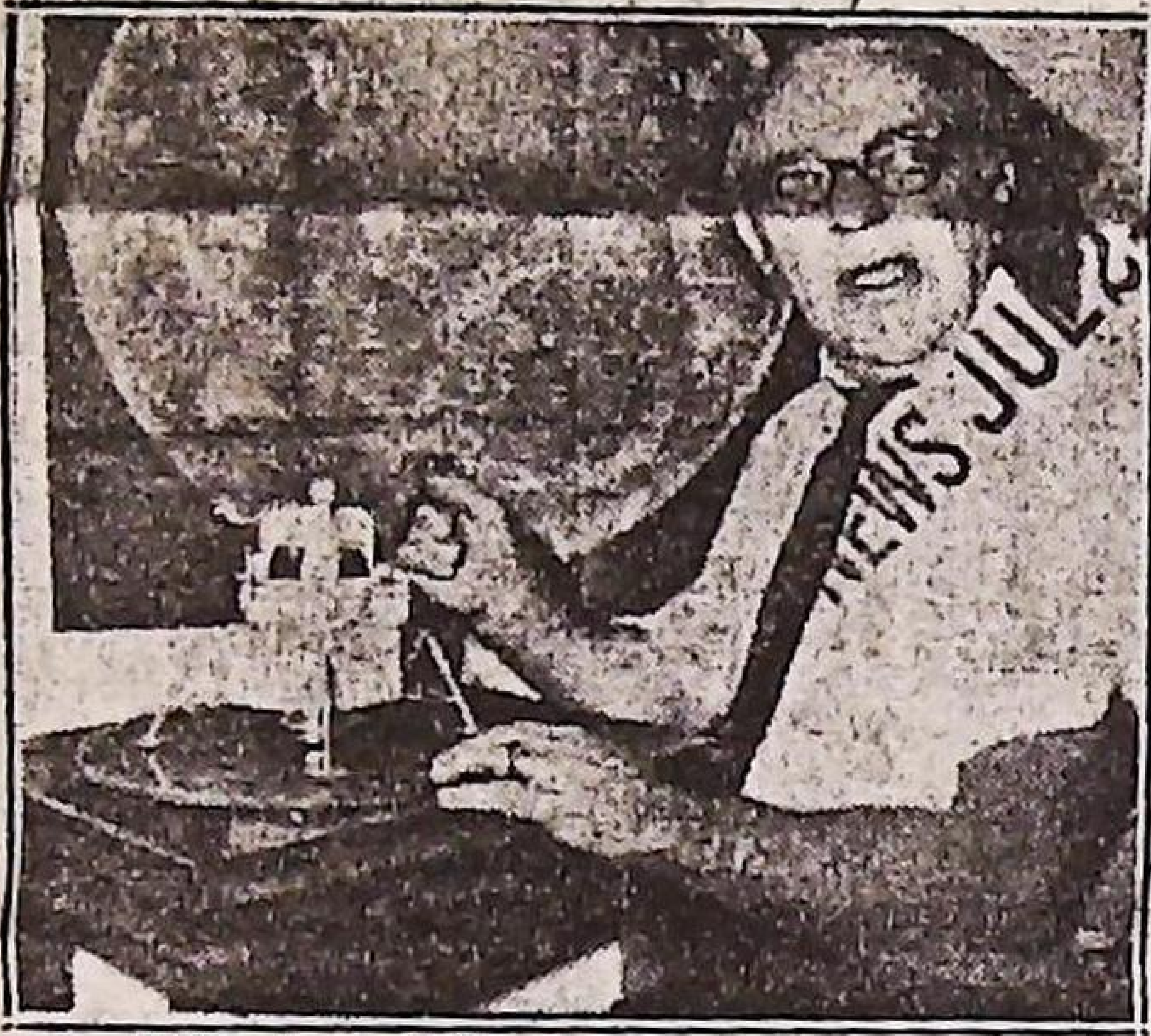
Dr. Willy Ley, whose passion has been rockets since 1927, summarizes the space race in one sentence: "The Russians may do it first, but we always do it better."

He offered two examples:

"The Russians launched the first satellite in October, 1957 and a second the following November. Both decayed. In early 1958, the U. S. launched Explorer I. It discovered the Van Allen belt and is still in orbit.

"The Soviet moon shot got 12 poor photos and they failed in six subsequent attempts. We had six failures but three howling successes and our unsurpassed moon pictures have enormous implications."

A moon map was behind him while he examined a scale model of the Lunar Excursion Module, which Grumman Aircraft is building for the 15-day round-trip Apollo moon flight set for 1969 or 1970.



Willy Ley—"We always do it better."

"It may come sooner," he said, "and it may be shorter than 15 days."

A stocky man with formidable learning, Dr. Ley holds degrees from the Universities of Koenigsberg and Berlin. He teaches astronomy at the New School for Social Research, is a TV commentator, science editor of the Information Please Almanac, and the author of 14 books ranging from geology and zoology to paleontology and rockets, especially rockets.

Fled Nazi Germany

He also plays the piano excellently and taught it to his wife and two daughters.

His family were wine merchants and Lutheran church officials. They all fled Hitler's ugly Germany in 1935. Before that, as a student, Dr. Ley was inflamed by the work of little-known and much-laughed-at rocket pioneers, the American Robert H. Goddard, the Germans Herman Oberth and Walter Hohmann and the Russian Constantin Ziolkovsky.

Dr. Ley helped organize the German Society for Space Travel, which designed a 1,000 mile-an-hour plane with a 50-mile altitude, but couldn't make the rocket engine to power it, though they knew the form and shape of the rocket. It was the forerunner of the supersonic jets.

"One reason we couldn't build it was because stainless steel and square tubing were unheard of in 1928," Dr. Ley said. "But by 1930 we were firing dozens of liquid fuel rockets a mile into the air and bringing them back by parachute."

After the V-II rockets of World War II the U. S., Great Britain and Russia all leaped into the rocket race.

From his own carefully kept records Dr. Ley estimates that the U. S. has the edge over Russia in communications, weather and navigation satellites. We send them up repeatedly.

"We know they have a communication satellite testing," he said. "They may have more. They take years to announce their results, the successful results. We announce our failures, too."

The Voshkod, latest Soviet capsule, carried three men and weighs seven tons. Our Gemini capsule weighs half as much and carried Lt. Cols. Edward White and James McDivitt.

"The Russians have the edge on us in manned space flight," he admitted. "But it's a small edge."

Future Plans

Ask him to look into the crystal ball and he does, but bases the views only on what is actually being done. Here is what he sees:

Now being planned for next year are longer and larger space flights, as much as three weeks in orbit, so that, among other things, the astronauts to the moon will not find a 15-day trip to the moon a novelty.

The Air Force will launch its Manned Orbiting Lab for scientific and medical investigation and keep it up for weeks, shooting new crews up to relieve the original ones.

"White and McDivitt really disappointed the medics," Dr. Ley said. "Nothing went wrong with them at all. But the medics have much to discover: will a single-celled animal reproduce in space? Will metals with no air between them cold-weld? That would be helpful for construction on the moon."

He fingered the Lunar Excursion Module and added, "This is built to remain on the moon for 44 hours. With astronauts like White they'll want to stay for 54. Maybe they will."

At Your Service

By MARGARET BROWNE

A collection of at-home entertaining accessories for casual summer living features a group of trays, mugs, snack sets, all covered with bright red strawberries. Wonderful compote or cake stand looks just like a strawberry vine complete with wrought iron strawberries that come right up onto the moss-green round tray or cake platter. . . . Coffee service in tall modern china boasts large enamel strawberries painted on the coffee pot as well as creamer and sugar bowl. All stand neatly in a moss-green tray. . . . Cheese and dip tray of solid walnut comes with a ceramic strawberry tile and a matching knife and dip-dish. . . . Four lovely canape dishes or dessert plates are $4 a set; four cups and saucers are $5 and four giant coffee mugs $5. Any one of these items will make a useful and unusual shower gift for a prospective bride.

Send a stamped, self-addressed envelope to MARGARET BROWNE, THE NEWS, 220 E. 42d St., New York 10017, for information on the above-mentioned items.

Brother Juniper
DO NOT CROSS DIVIDER

By GEORGE:

N.Y. N.Y. News 2 July 1965

8 Feb 1952 page 21 - c-6,7 Hartford Courant.

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in Korea.

All were accused of shoplifting activities in two stores in Stamford and three in Norwalk where merchandise valued at $687 was taken. Judge Cornell told Stewart he was suspending sentence because the youth was a first offender and because he "was sort of dragegd into this thing."

Idleman Accepts Contract

NORWALK, Feb. 7—(AP)—Superintendent of Schools Hillis K. Idleman decided today to accept the one-year renewal of his contract which the Board of Education offered him only after a lot of arguing. By a 5-4 margin, the board refused to renew Idleman's contract for three years, but at a six-hour meeting which lasted until 2 a. m. Wednesday voted 5 to 4 to re-hire him for one year. Said Idleman, who gets $11,000 a year, "it seems to me that now is the time to forget any differences which we may have had, and to unite solidly for the welfare of the children of Norwalk." Idleman, formerly superintendent of schools in East Hartford, came here in 1949.

Music Teachers Meet Saturday

The In And About Hartford Music Educators Club will hold a joint luncheon with the new Haven organization Saturday at 12:30 o'clock at the Town House in New Haven.

There will be a clinic on teaching brass instruments by Robert King, music supervisor for schools in Northeastern Massachusetts.

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through the medium of its dog show.

Governor Lodge has been invited to personally present the Governor's trophy to this year's champion junior handler in a colorful ceremony closing the show. Each year the entry in the junior showmanship classes ranks with the best of the other shows across the nation.

Weaver High School football co-captain.

G. A. Rowen of the Rowen-Leahy Company, local distributors of earthmoving and construction equipment, will attend a meeting conducted by R. G. LeTourneau, Inc., of Peoria, Ill., for northeastern distributors Wednesday in Baltimore, Md.

Rocket Expert Pictures Future Picnics In Space

Vacationers 15 years from now may find a new picnic grounds in the "wild blue yonder."

Basing his conclusions on the rapid progress made in rocket work, Willy Ley, noted author and cofounder of a German scientific group which pioneered the science of space travel, told nearly 450 automotive engineers Thursday night that "after 15 years we will not only have orbital rockets at 350 miles (vertical height from the earth's surface), but manned rockets going at much higher altitudes."

Pictures Navigation 'Fixes'

Guest speaker at the Southern New England Section of the Society of Automotive engineers dinner meeting at the Hedges, Mr. Ley also pointed out that not many years hence rocekts launched into space would follow an orbit around the earth whose passing by a particular geographical spot at the same time each day could be employed as "an absolutely marvelous, unchangeable 'fix' for navigation."

Such rockets, he said, could be sent to any height desired in order to fit into our 24-hour day. One, for example, could be set into space which passed over the United States from east to west in 20 minutes. A navigational 'fix' could be made on such a rocket at an eastern point of the country, and checked against a western coastal point. Such rockets he added, would last about three to 4,000 years.

Mr. Ley employed a Navy film on rocket research to illustrate his contention that rocket and space travel are not inconceivable in our generation.

Miss Eugenie S. Thayer and James Biddle Duke of Philadelphia at a dinner party in the Casanova Restaurant. Miss Thayer is the daughter of Mrs. Sigourney Thayer of New York and Washington society.

Teens and the Moon

Expert Sees Youths Making First Trip

By VICTORIA LEE.

Stocky, gray-haired Willy Ley, the world's best-known authority on space travel, feels that teen-agers are generally far ahead of adults in their knowledge of the subject.

The king of the space ship fans looked out of his heavy horn-rimmed glasses, and said in his equally heavy German accent—without cracking a smile—"the men who will be the future space pilots are sitting in high school right now."

Born in Berlin in 1906, Willy Ley believes that ~~today's teens~~ will tomorrow be flying to the moon, lingering awhile, and then coming back to earth to talk about it.

We gulped at the thought of the earth bound man on the [illegible] to the moon, but vigorous Billy went on undaunted.

"It will, of course, all be done by degrees, but it can be done within our life time. It is no longer a matter of invention, simply development."

Busy Consultant.

Willy, an expert on a mode of transportation that doesn't exist, is probably one of the busiest consultants in New York.

Scientists, book and magazine editors, television producers, and government representatives are constantly bombarding him with questions.

He gladly disperses information to long-haired scientific organizations as well as to equally serious minded TV addicts.

The leading popularizer of rocketry has recently written four books dealing with such subjects as astronomy, rockets, and space satellites that will be offered as premiums on Disney's ABC-TV Mickey Mouse Club.

"This kind of work is important," said Dr. Ley as he puffed on his cigar, "because nothing can be achieved without some degree of popularization. But," he added thoughtfully, "I would like to take off two years in the near future and devote myself to a really scholarly work."

Asked if he would himself take a chance on a trip to the moon, Willy immediately answered "young people are so hard hearted."

'I'm Too Old.'

"I'm too old," he smiled, but the Army is constantly plagued by volunteers who want to man the first rocket to the moon.

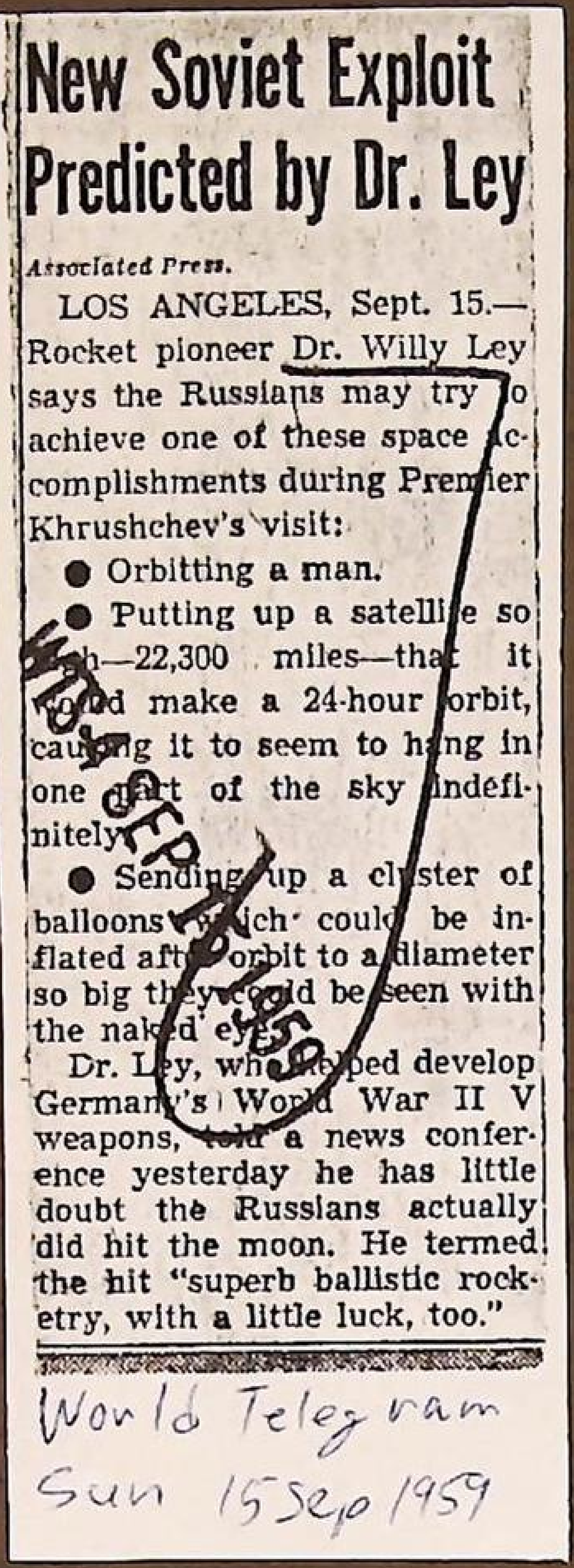
"Usually the re[illegible] m from young pe[illegible] times they come fr[illegible] military offi[illegible] do a last se[illegible] country. Feeling [illegible] outlived their usefulne[illegible] tell us 'you might jus

shot me off to the moon as anyone else.'"

Willy recalls one letter from a teen-age girl of Italian ancestry who volunteered for the pioneer trip to the moon. She felt that since Columbus, an Italian, was the first to discover America, it would be only fitting for another Italian to discover the moon.

"Fine thing she had most to recommend her," Dr. Ley said flatly "was that she was only 4' 11" tall and weighed just 90 pounds."

World Telegram
Sun, N.Y. N.Y.
22 July 1957



New Soviet Exploit Predicted by Dr. Ley

Associated Press.

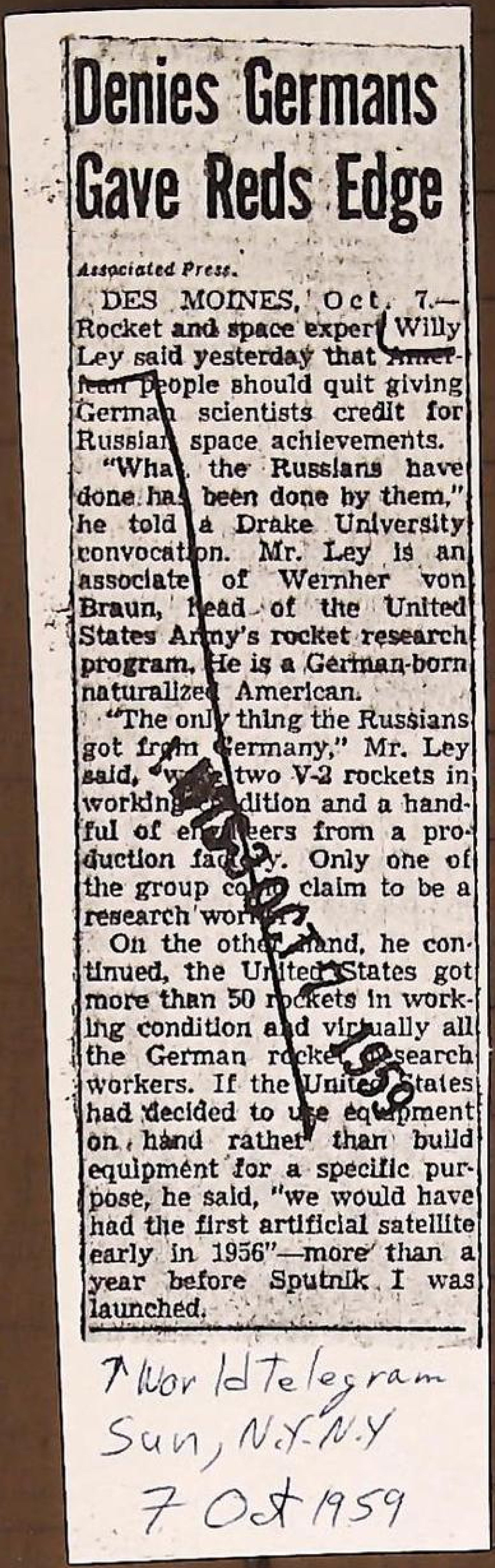
LOS ANGELES, Sept. 15.—Rocket pioneer Dr. Willy Ley says the Russians may try to achieve one of these space accomplishments during Premier Khrushchev's visit:

- Orbitting a man.
- Putting up a satellite so high—22,300 miles—that it would make a 24-hour orbit, causing it to seem to hang in one part of the sky indefinitely.
- Sending up a cluster of balloons which could be inflated after orbit to a diameter so big they could be seen with the naked eye.

Dr. Ley, who helped develop Germany's World War II V weapons, told a news conference yesterday he has little doubt the Russians actually did hit the moon. He termed the hit "superb ballistic rocketry, with a little luck, too."

WTS SEP 15 1959

World Telegram
Sun 15 Sep 1959



Denies Germans Gave Reds Edge

Associated Press.

DES MOINES, Oct. 7.—Rocket and space expert Willy Ley said yesterday that American people should quit giving German scientists credit for Russian space achievements.

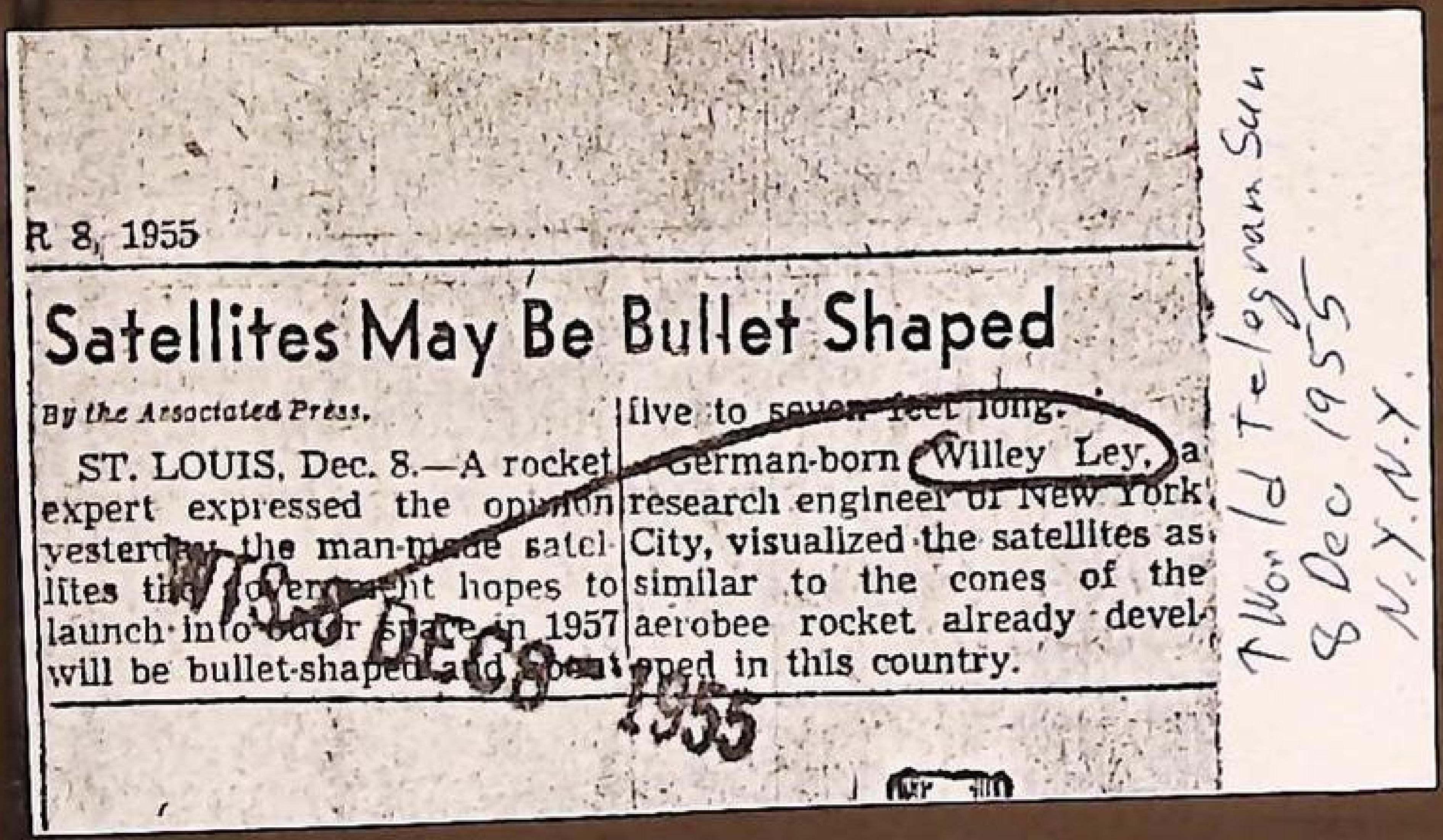
"What the Russians have done has been done by them," he told a Drake University convocation. Mr. Ley is an associate of Wernher von Braun, head of the United States Army's rocket research program. He is a German-born naturalized American.

"The only thing the Russians got from Germany," Mr. Ley said, "were two V-2 rockets in working condition and a handful of engineers from a production factory. Only one of the group could claim to be a research worker."

On the other hand, he continued, the United States got more than 50 rockets in working condition and virtually all the German rocket research workers. If the United States had decided to use equipment on hand rather than build equipment for a specific purpose, he said, "we would have had the first artificial satellite early in 1956"—more than a year before Sputnik I was launched.

WTS OCT 7 1959

↑ World Telegram
Sun, N.Y. N.Y
7 Oct 1959



Satellites May Be Bullet Shaped

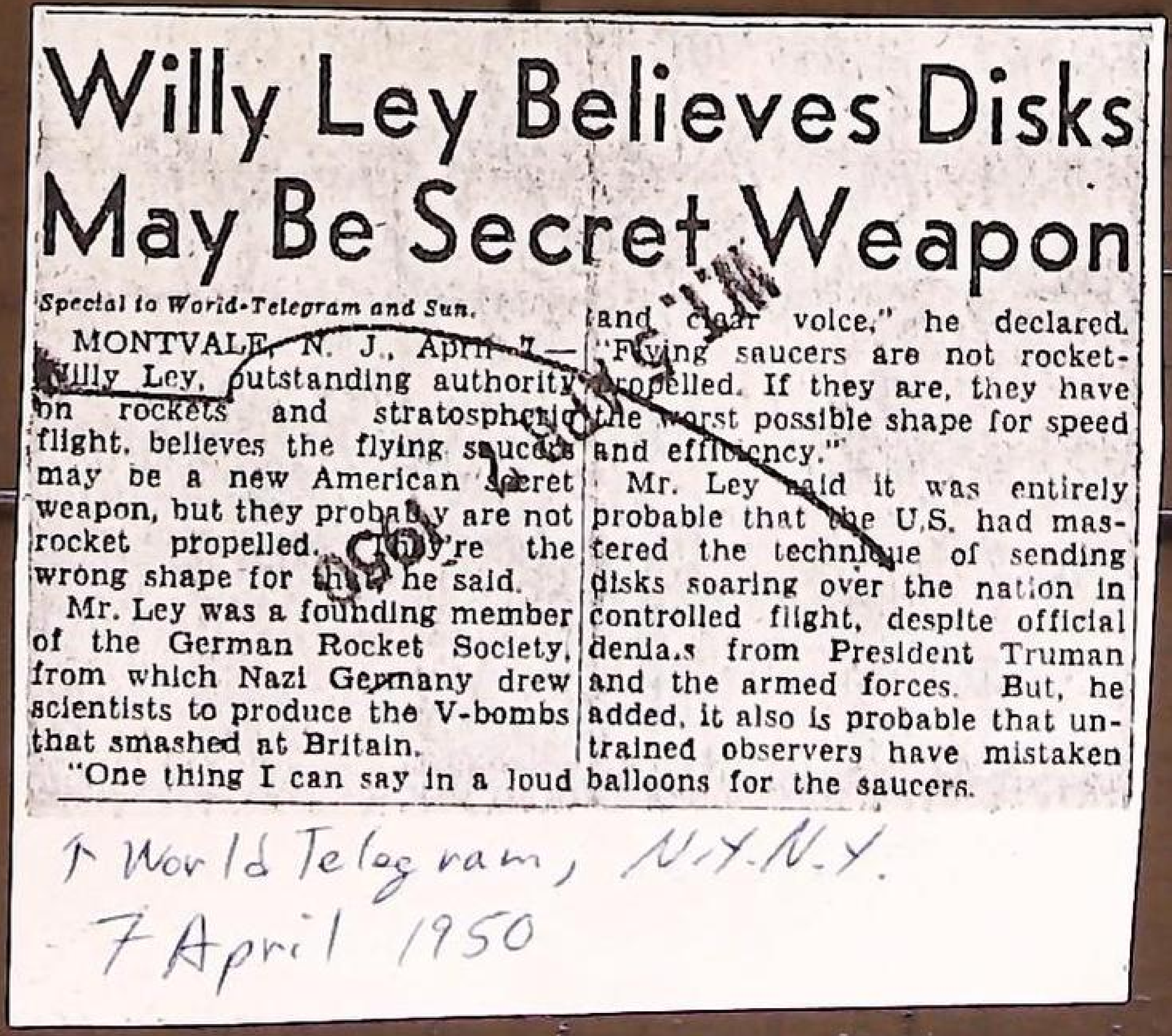
By the Associated Press.

ST. LOUIS, Dec. 8.—A rocket expert expressed the opinion yesterday the man-made satellites the government hopes to launch into outer space in 1957 will be bullet-shaped and about five to seven feet long.

German-born Willey Ley, a research engineer of New York City, visualized the satellites as similar to the cones of the aerobee rocket already developed in this country.

WTS DEC 8 1955

↑ World Telegram Sun
8 Dec 1955
N.Y. N.Y.



Willy Ley Believes Disks May Be Secret Weapon

Special to World-Telegram and Sun.

MONTVALE, N. J., April 7.—Willy Ley, outstanding authority on rockets and stratospheric flight, believes the flying saucers may be a new American secret weapon, but they probably are not rocket propelled. "They're the wrong shape for that," he said.

Mr. Ley was a founding member of the German Rocket Society, from which Nazi Germany drew scientists to produce the V-bombs that smashed at Britain.

"One thing I can say in a loud and clear voice," he declared. "Flying saucers are not rocket-propelled. If they are, they have the worst possible shape for speed and efficiency."

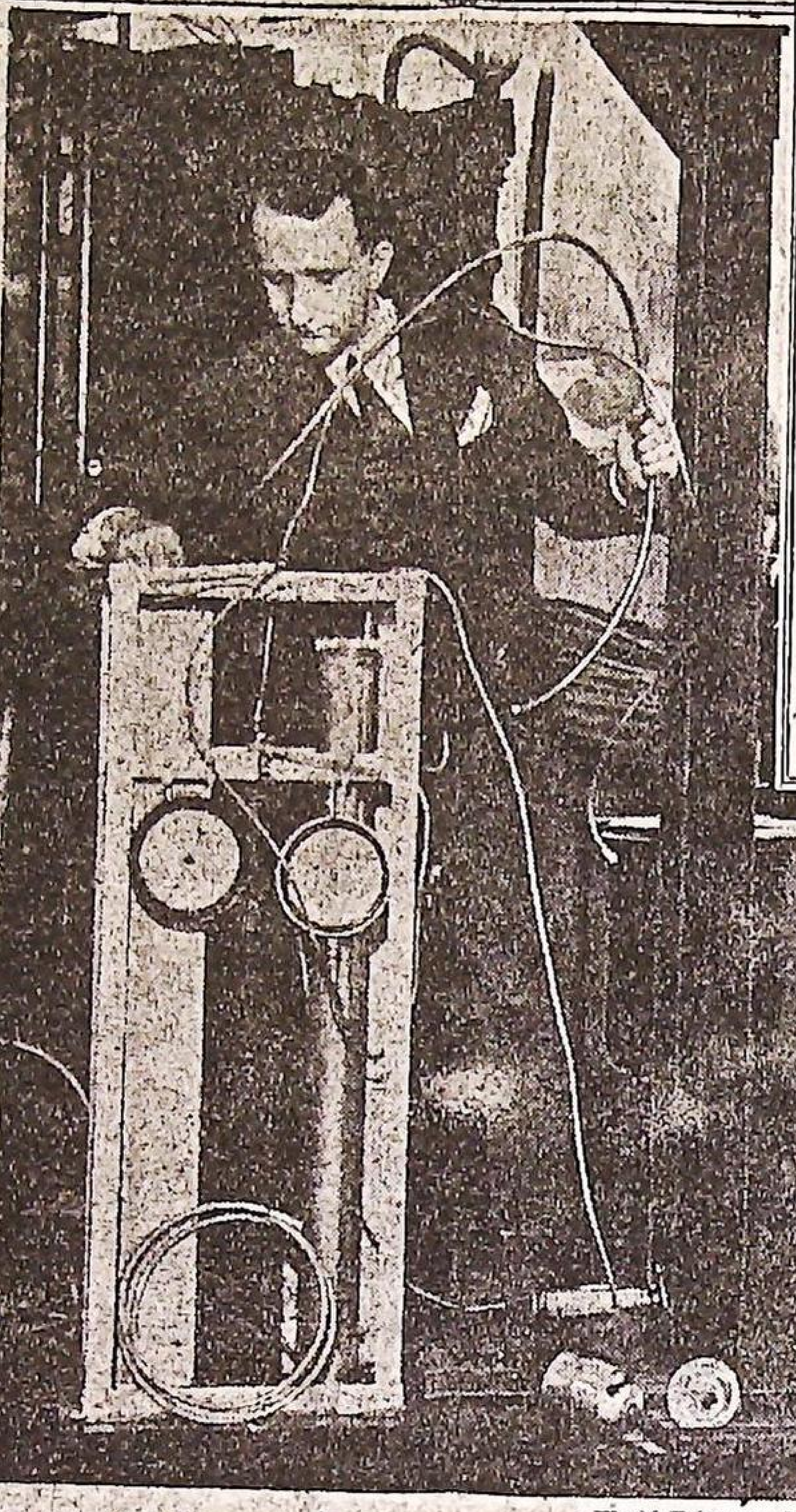
Mr. Ley said it was entirely probable that the U.S. had mastered the technique of sending disks soaring over the nation in controlled flight, despite official denials from President Truman and the armed forces. But, he added, it also is probable that untrained observers have mistaken balloons for the saucers.

W.T. APR 7 1950

↑ World Telegram, N.Y. N.Y.
7 April 1950

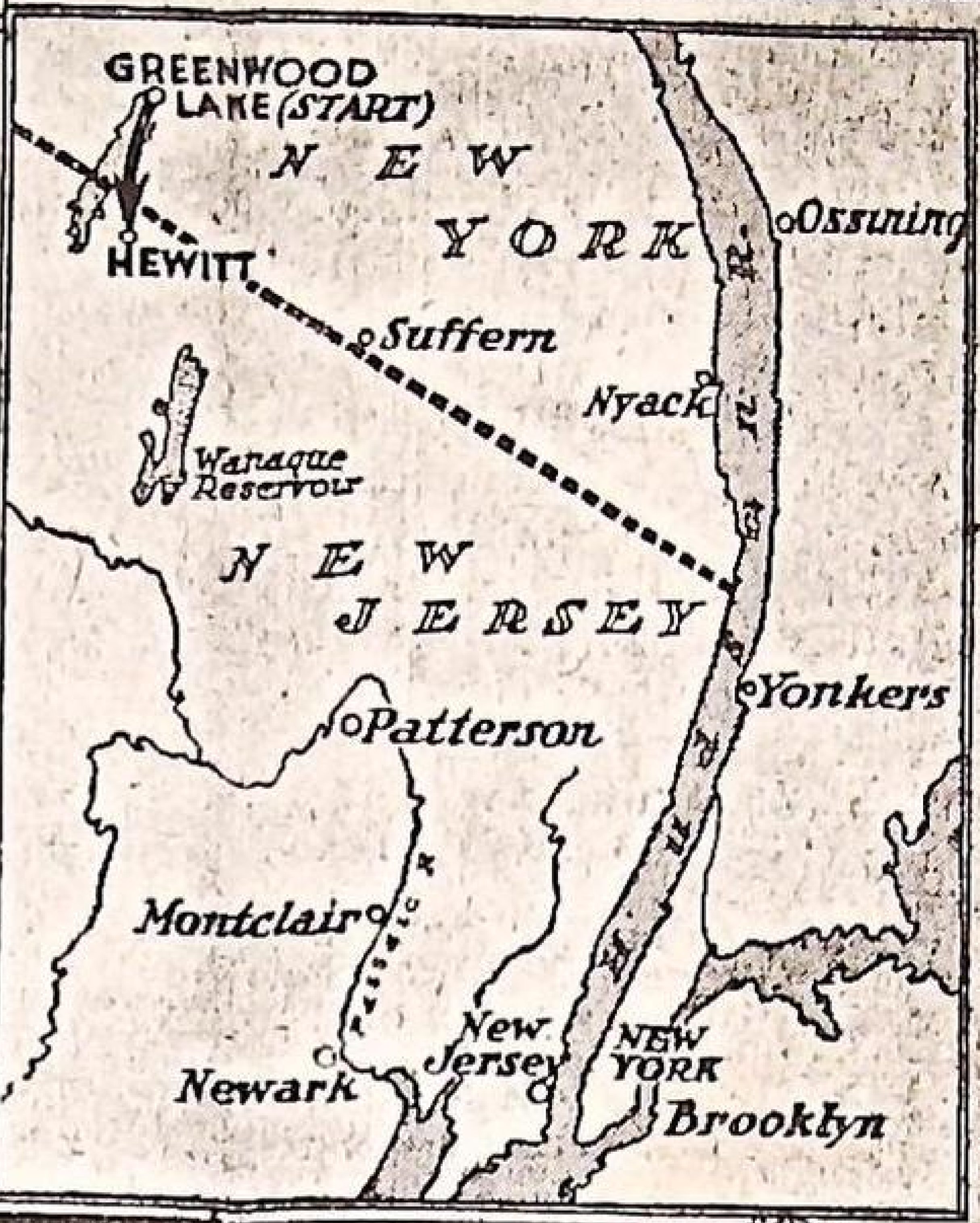
A New Era Approaches with First Rocket Mail Flight, from New York to New Jersey, Set for January 26

Machine Will Carry 4,000 Covers from Greenwood Lake to Hewitt.



World-Telegram Staff Photo.

Frido W. Kessler at work on the motor of his rocket ship.



Map showing the proposed flight of the first rocket mail.

By SUTHERLAND DENLINGER,
World-Telegram Staff Writer.

Truth—ho-hum—is stranger than, etc. Today's dissertation upon a familiar theme has to do with rockets and Mr. Farley's airmail and a soon-to-be flight which spits in the face of the fictions of Jules Verne and the less literate fancies of the comic strips.

Comes now Frido W. Kessler, of 551 Fifth Ave., the Rocket Corp. of America, and a business as a stamp dealer, and deposes that on January 26, 1936, the first rocket plane to make an official airmail flight will pop off from Greenwood Lake, N. Y., and sizzle at 500 miles an hour across lake and upland to Hewitt, N. J., some three miles from its starting point.

Mr. Kessler is a tall, well-turned-out man with a pink and white complexion and seagreen eyes, German by birth and Swedish by descent. He is the entrepreneur. The technical side of the "first practical application of carrying mail by rocket airplane" has been in the hands of Dr. Willy Ley, German scientist, who came to the United States a year ago at the invitation of the American Society of Rocket Engineers and stayed on.

Perfected Here.

The rocket plane—three of them are now building in a Long Island aircraft plant—was perfected in the Guggenheim laboratories here. When it takes off from Greenwood Lake on its jump to Hewitt it will carry some 4,000 airmail covers, many of them in the wings. That is why it has wings. They are not otherwise necessary.

The plane is built of duraluminum, has a wingspread of 25 feet and a fuselage 11 feet long. Its motor has no moving parts. There is, of course, no propeller.

Here's the way it works (or at least, here is the way models have worked and the way the larger motor itself has functioned in ground tests). There are three tanks. One of them contains compressed nitrogen gas and this furnishes pressure to the other tanks which contain, respectively, liquid oxygen with a temperature of minus 200 degrees centigrade, and a mixture of alcohol, gasoline, methan, and other liquids.

Gas Expands.

Pressure of the nitrogen gas forces the liquid in the other tanks through sprays into a combustion chamber, where they are ignited electrically, forming a gas having many times the volume of the original components. This chamber is hollow, and shaped like a ball. Pressure is [illegible] all walls, but there is an opening on the lower end leading to an escape nozzle. The pressure against the [illegible] wall, therefore, furnishes the thrust.

Unlike ordinary rockets, which are merely projectiles, the rocket plane starts at slow speed, builds up its speed in flight as the continuous explosions force it through the air.

The rocket plane, Mr. Kessler said, cannot spin or get noseheavy. It may be controlled by beam radio, but this will not be done in the flight to Hewitt. The rocket will merely be pointed in the direction of destination.

Stamps for Flight.

The Post Office Department has prepared two stamps for the initial flight, Kessler said—one stamp to go on postcards bearing a picture of the rocket plane and another stamp for airmail special delivery covers.

Mr. Kessler said that he is himself a member of the rocket society and has written about rockets, but he disclaimed anything but a promoter's interest in the present venture.

"I am to the trade known as a stamp dealer and cannot be known as an inventor," he said. "It would be bad for business."

He is convinced that the rocket airplane has a bright future, believes that a great deal of experimentation is still necessary. Postal officials, he said, are much interested.

"It's not really a new invention, just the first practical application of an invention. Dr. Ley has made ninety-seven flights with rockets built on the same principal, although they carried no mail."

Made in Germany.

Most of these previous flights, Mr. Kessler said, were made in Germany, where—until it was dissolved recently—the largest rocket club in the world maintained its own laboratories and its own field ("way out on the desert of Pomerania where, should there be an explosion, nobody could get hurt").

Theoretically, explained Mr. Kessler, a rocket plane could be built to any size merely by increasing the size of the motor. Actually, however, it was still undetermined whether better results might not be achieved by gearing up a series of smaller motors.

Of the three rockets now building one is to be used for experiment in beam radio control, one for the mail flight and one for reserve.

Hard to Select Date.

The flight originally was scheduled for this month, but Mr. Kessler has found it difficult to select a date satisfactory to all the stamp collectors, rocket enthusiasts and government officials who will attend.

"It has to be on a Sunday," he said, "because of all the stamp dealers who will come from Chicago and Boston and everywhere. I want also a day when Charles Braddock, superintendent of air mails, can come. I think January 26 may be best."

Some day, perhaps, airmail may flash by rocket at 500 miles an hour; pass—say—from Newark Airport to the New York postoffice in less time than you can mutter Fiorello H. La Guardia.

World Telegram 24 Dec 1935 N.Y.N.Y.

WHAT makes a rotary lawn sprinkler go 'round and 'round?

Because the answer to that somewhat childish question is known, men will certainly go some day by rocket to the moon and the planetary station stops beyond.

That some day will be relatively soon, categorically states Willy Ley, king of the spaceship fans, in his book "Beyond the Stratosphere," scheduled by the Viking Press for October publication.

Well—why does a rotary sprinkler go 'round and 'round?

The answer is an early paragraph in Ley's fascinating compendium of all known human speculation, serious and grotesque, on the human animal's eventual chances of spreading his domain beyond the cramping confines of this war-torn bubble, Earth, with its generally unsatisfactory distribution of climates, top soil, six-lane highways, pence and pounds.

The grandparents of all sprinklers (and great grandparents, therefore, of the Moon-Rocket to come) were two gadgets, one a toy wooden pigeon, the other a sort of automotive top, both shown to a thoroughly mystified Roman population of the fourth century B.C. by their respective inventors, Archytas and Heron, the latter a pupil of Ktesibios Mechanicus of Alexandria.

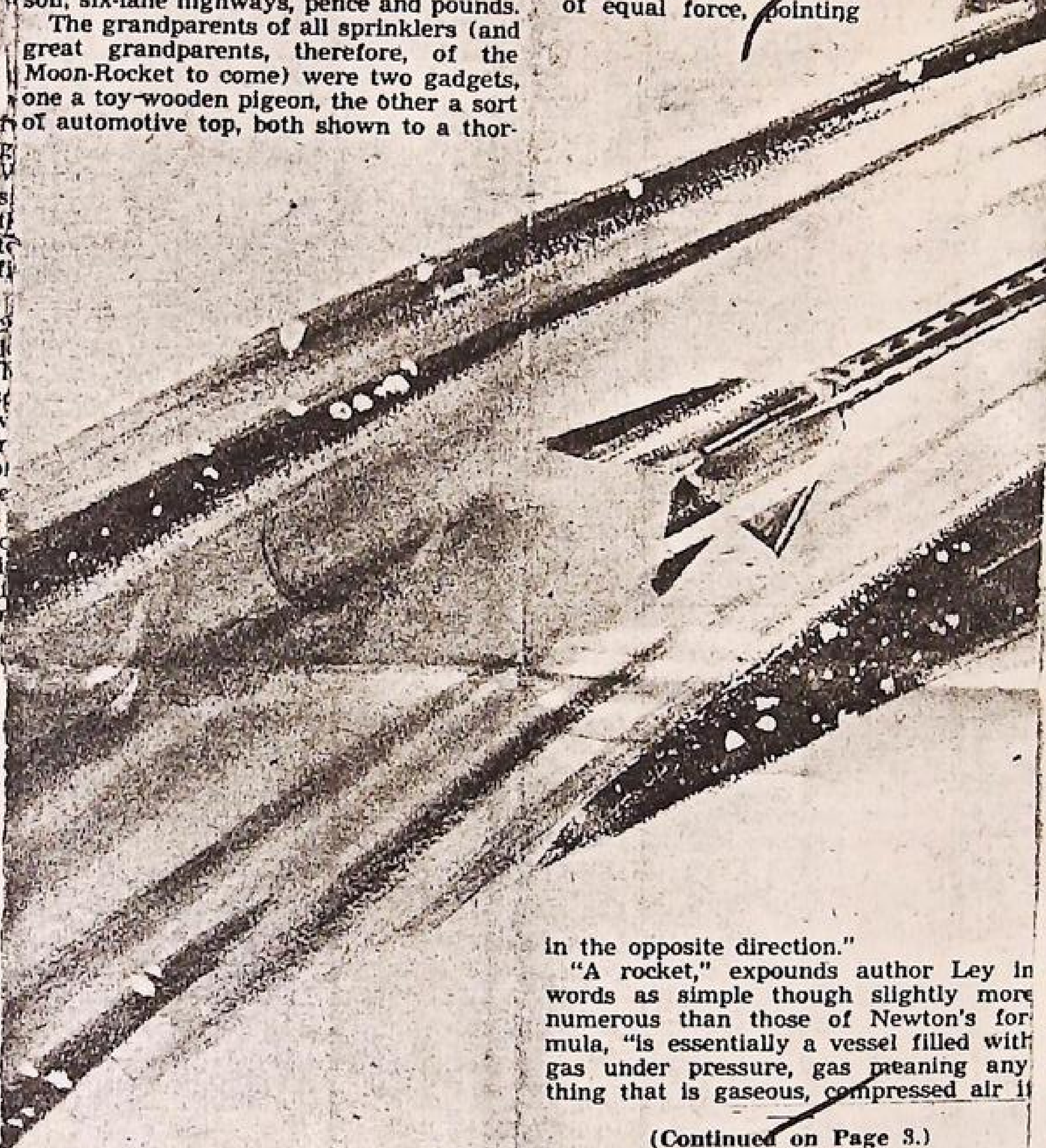
Archytas' legendary pigeon was a hollow bird hung by a string from an eyelet in the top of a flexible pole around which it proceeded to swim in a wide circle when released (no doubt with appropriate incantations) from mystifier Archytas's crafty hand. Heron's contraption, similar in principle, was in effect a hollow stopper in the form of a cat's head with elongated ears, perched atop a steam kettle.

Archytas' bird, of course, derived its "magic" power of flight from the fact that it contained either steam or compressed air which, when Archytas removed his thumb from a vent in the tail, poured out in a propelling stream against resisting atmosphere. Similarly, Heron's spinner span when steam escaping from the elongated ears of his cat's head, communicated a rotary motion to the latter.

For centuries these toys mystified men of science and none alike. Today, in any classroom-lab where they teach physics-A, it turns up as the familiar aerolipile, and the commercial-minded have adapted it to the function of watering golfing-greens with a sprinkler which rotates simply because the force engendered by escaping water pressure must pay off in the form of some counterforce.

Pigeon, aerolipile, sprinkler (or future moon-rocket) any one of these is proof of Sir Isaac Newton's Third Law of Motion and, reasons Ley, Sir Isaac's Third Law conversely is proof that any or all of them does and must work. It is "that every action must be accompanied by a reaction of equal force, pointing in the opposite direction."

"A rocket," expounds author Ley in words as simple though slightly more numerous than those of Newton's formula, "is essentially a vessel filled with gas under pressure, gas meaning anything that is gaseous, compressed air i



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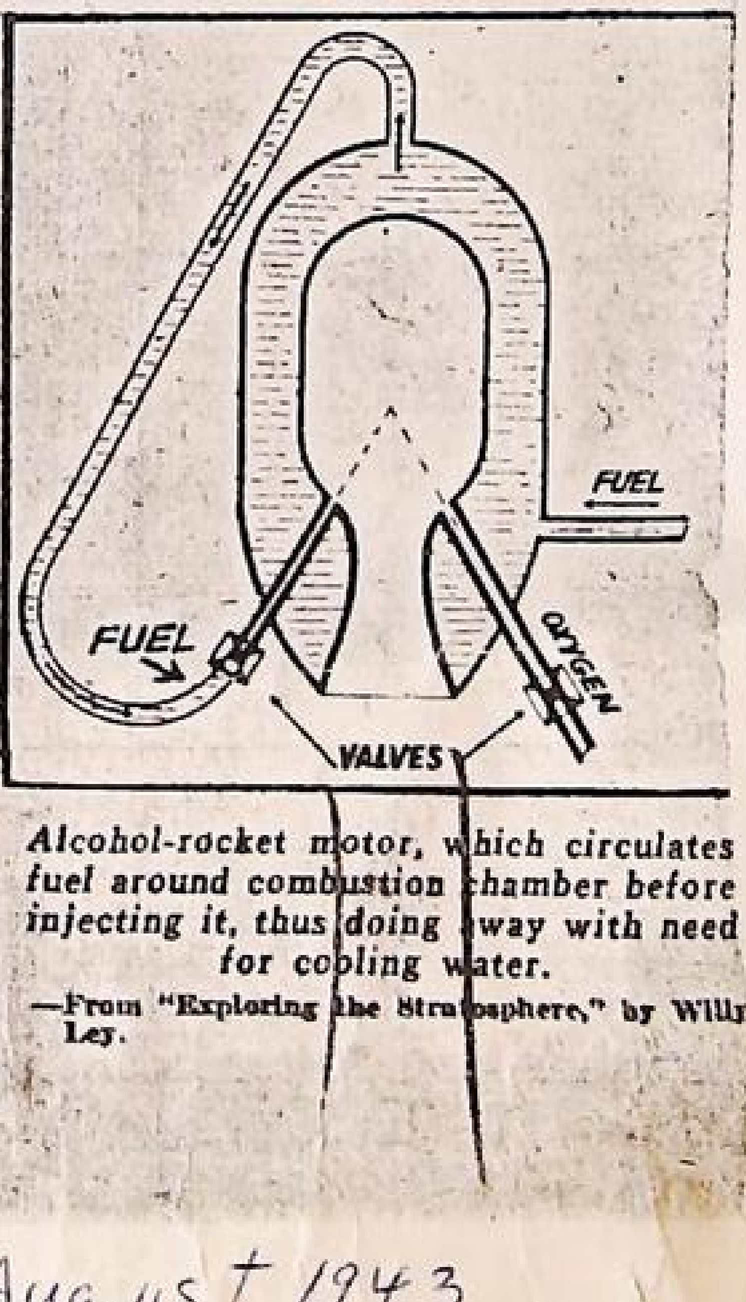


Alcohol-rocket motor, which circulates fuel around combustion chamber before injecting it, thus doing away with need for cooling water.

—From "Exploring the Stratosphere," by Willy Ley.

N.Y. N.Y. Mirror 15 August 1943
Stratosphere Space Travel now Possible

ssure of carbon dioxide; any gas [illegible] do. As long as the vessel containing the compressed gas is without leaks or holes, the gas will press against the walls of the container with equal force in any direction, up and down and left and right. But the picture changes when the container gets a hole through which the gas can escape. We'll assume that the hole appears suddenly in the bottom of the container. Then the gas still presses against the walls and the top. But [illegible] cannot press against the bottom because there is nothing there to press against. Consequently the pressure pointing upward is not counteracted and the container rises."

Simple—isn't it?

Mr. Ley's argument—and it is the passionate one to be expected from the man who has been risking his whiskers in rocket experiments ever since science began sprinting to catch up with Jules Verne—is that the principle is just as simple as it sounds; where there's fizz, there's force, and if the hole is in the bottom the fizzing force will lift until the fizz gives out.

The principle, he almost angrily declares, has constantly been beclouded by dolts and worse, who have tried to make themselves some fun or some money or some glory out of mating the pure rocket with all sorts of lower mongrel forms of mechanism, such as utilitarian aeroplanes, creeping automobiles and spluttering instruments of war and death.

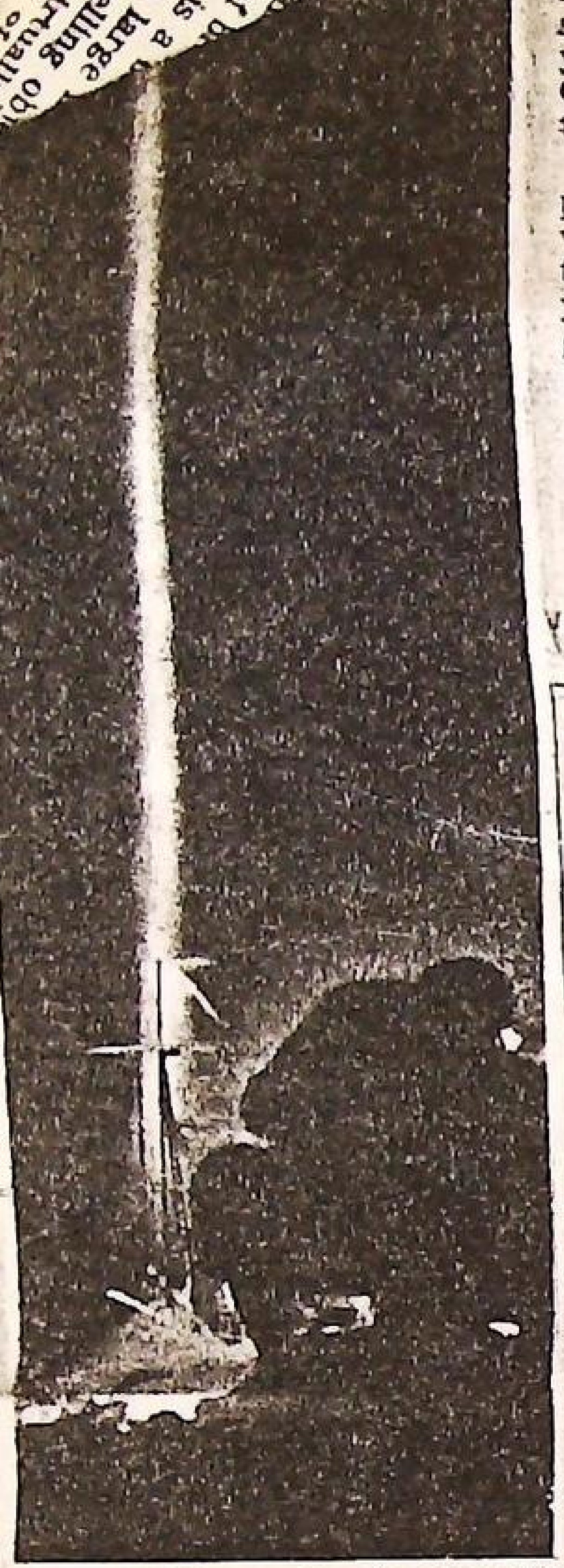
The rocket, he demands, must be used solely for the one purpose for which it is itted—the conquest of space. He tells f amusing, though irritating, experinces he has had on the rocky road of the cture-circuits, where, as often as not, he as been introduced to grinning audiences

(Continued on Page 11)

MIRROR

N.Y. N.Y. Mirror

15 August 1943



Flash of fiery wake of space ship cuts through the night in unsuccessful Rocket Society experimental launching of early rocket.

(Continued from Page 3.)

as "the man who wants to fly to the moon."

Quite seriously and earnestly, he has been advised by responsible and eminent leaders in the field of aeronautics:

"Don't talk about space-ships. Speak about altitude rockets for weather predicting and meteorological research. Say something general about rocket-motors for aviation and touch on [illegible] weapons and let it go at th[illegible]."

In short, he has been touted off his favorite subject by wise counsellors who say that the public has gone all earthy and practical in this period of mechanized kindergartens, beauty-parlors and wars, and the man whose thoughts turn aspiringly to worlds above the fruit-tree [illegible] is out of tune with his times—not in the groove.

"I never follow advice," Ley stubbornly states and ends a chip-on-shoulder preface to his volume on a mulish note:

"I'm going to talk about spaceships."

Though he devotes due space to the speculations of Jules Verne, H. G. Wells and the other rocket-conscious fictionists on the things the first men in the moon will find when they get there, Mr. Ley refrains from swelling this class of literature with fancies of his own.

This is not to say that he fails to share with these that sense of mystic wonderment which lies at the [illegible] all interest

[illegible] rather pain[illegible]lly, in [illegible] of the modern German exp[illegible]entations with practical rocket launchings, Ley outlines the withering effect of Nazism on German science and scientists in the years just before Hitler's Grand Reversion to the age of the Hun.

The layman is chiefly impressed, however, by Ley's severely practical comments on the actual problem of flight beyond the pull of this planet's gravity and through those interbolidian spaces which Man has always instinctively contemplated as a great nothingness.

It is customary today to complain that the great era of adventure and discovery has drawn to a close because there are no more unknown lands to map, no more frontiers to tame.

Willy Ley thinks, and he brings great authority to support his opinion, that we are about to embark on the greatest exploration of all.

He sees the possibility in the near future, with improvement in our fuels and projectile knowledge as a result of the war, of a rocket with one man at the controls; for he argues with reason that the weight of a 170-pound man would be less than that of the control instruments needed to reach other planets.

For many years rocket scientists have seen the time drawing near when the first rocket ship to the moon will be launched. Various devices for proving that the rocket has reached the moon have been devised.

Willy Ley offers a practical one which seems to have the virtues of simplicity and authenticity. He would load the rocket with a dynamite charge sufficient to explode a volatile white powder over a large area.

When the rocket hits the moon, whose color is a slate gray, the white powder blast would stain the moon's surface over a sufficient area to make a spot that could be seen by our strongest telescopes.

And so the space ship seems at last to have gone from the realm of literature and fancy to a point where science has already begun to come to figures and numerals on velocity, on gases and on the mechanism of the projectiles for [illegible]s realization.

At first, says Ley, the rocke will be stratosphere baromete which will bring back calcul tions, pressure and actual pl tographs of the worlds beyo our world.

Then will come the sing manned ship, probably hea for the moon. There is, course, the likelihood of as mu tragedy and mishap as man countered in the early days the plane itself. But ultima corrections will be made, t singly-manned ship will be h tressed by larger crews, and era of space travel will ha started.

Meanwhile we can all begin see signs of a headline on c morning newspapers reading:

Rocket Reaches Moon!

N.Y. N.Y. Mirror 15 August 1943

6

Man in Orbit Forecast by 1961

Associated Press.

LOS ANGELES, Feb. 24—Rocket expert Willy Ley predicts a man, probably a Russian, will be put in orbit around the earth within two years. The German born scientist said a manned station will be established in space about six to eight years from now.

He told Los Angeles State college students in a speech yesterday that American scientists will not send a human into space until every phase of getting him back to earth has been solved. He did not indicate whether he thought the Russians would show equal concern for space pilots' safety.

WTS 7 FEB 24 1959

SCHOOLS ar
ENROLL NOW AT ONE OF T
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30 Lafayette

T World Telegram
Sun, N.Y N.Y
24 Feb 1959

Satellites May Be Bullet Shaped

By the Associated Press.

ST. LOUIS, Dec. 8.—A rocket expert expressed the opinion yesterday the man-made satellites the government hopes to launch into outer space in 1957 will be bullet-shaped and about five to seven feet long.

German-born Willey Ley, a research engineer of New York City, visualized the satellites as similar to the cones of the aerobee rocket already developed in this country.

WTS DEC 8 1955

World Telegram Sun
8 Dec 1955
N.Y. N.Y.

MAIL SENT BY ROCKET

Flight Planned Near New York to Test Scheme Successful Abroad

By FRANK L. WILSON.

A NEW extension of the possibilities of flying mail by means of rockets is to be attempted late this month. At that time a rocket airplane is scheduled to be sent from Greenwood Lake, N. Y., to Hewitt, N. J., an airline distance of about six miles. The projectile, fitted with wings to provide a gliding landing at the end of its flight, will be propelled by a highly explosive mixture of liquid oxygen and gasoline. The experiment is under the direction of Willy Ley, a German scientist and [illegible] on rocket construction.

The advent of rocket mail, that is, the sending of mail by means of a rocket, [illegible] caught the fancy of scientists and aerophilatelists alike and experiments are being carried on in several countries to develop this [illegible] of rapid postal transit. The present trials show that the plan's practicability needs further demonstration; but with progressive "step-firing," and with liquid gases as propelling power, these mail-carrying rockets evidently may, in the near future, be made to travel long distances with almost mathematical accuracy and at incredible speed.

The mail-carrying rocket generally used in these experiments is rather simple in construction, the main difference in the projectiles being in their shape and stabilizing fins. The forward compartment, or head of the rocket, contains the receptacle for letters and cards. Back of this is the chamber loaded with unpowder, which is ignited by a use or electric spark from the rear nd. The rocket reacts like the recoil of a gun when a shot is fired; he opening at the rear of the rocket llows little resistance to the explod-g gas, so that the "kick" or recoil is transmitted to the front wall nd the rocket is propelled forward.

Loading a Mail Rocket.

The first man reported to have pplied rockets to the carrying of hail was Frederich Schmiedl of rass, Austria. His signal accomlishment was the shooting of his

TNY. Times
10 NOV 1935

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amous V1 from Schoeckl to Radeund, a distance of about one and hree-quarter miles, on Feb. 2, 1931, n which 103 pieces of mail were arried. This feat acted as a stimlus to other scientists and a numer of tests have since been made. o far, however, the record set by Herr Schmiedl remains unbroken.

Some European Flights.

Besides this initial flight, Herr chmiedl carried out nine or ten ther tests the following two years, sing various types of rockets. In ach of these experiments, souvenir nail was carried. On Aug. 31, 1933, erhard Zucker fired a rocket carying souvenir mail from Hasselelde toward Stiege in the Hartz, he rocket traveling about half a nile. This young German inventor ater flew his rockets in Holland, taly, Belgium and the British sles.

The rockets were of various hapes and sizes and were started n different styles of slipways. The larger rockets proved too expensive, and Zucker spent some time in perfecting one of smaller size. This was successfully fired on a flight near Thale, Germany, on Jan. 28, 1934, and later the same type of rocket was used at Brighton and Howe, England.

At the Holmes Airport, Astoria, N. Y., on Sept. 22, an unsuccessful trial was made to fly rockets designed for carrying mail. After some tests with this type of projectile the event was widely advertised in the philatelic press. But the two rockets exploded soon after leaving the ground.

Specially printed rocket mail stamps have been prepared for most of the flights made to convey mail. The stamps, or labels, although they are not sanctioned by the governments of the countries in which the flights have taken place, are sought by many cover collectors and aerophilatelists. They are affixed to the covers and are usually canceled before the firing of the rocket.

Similar labels were used on experimental airplane flights when the carrying of mail by that means was in its infancy. Aerophilatelists regard the rocket experiments as forerunners of regular government sanctioned rocket mail flights.

N.Y. Times
16 NOV. 1935

STUDENT *notebook*

Space Bid Foiled, He Pens Itinerary

By HOPE JOHNSON.

Felix Godson didn't get to be the "first school boy in space."

The Cambridge, Mass., police arrived just in time to prevent him from sending up a rocket from the parking lot of the Browne & Nichols School. The year was 1952. Felix was 12 at the time.

But he is, definitely, the second 19-year-old to write a text about space travel. The first was Dr. Willy Ley, who wrote his in 1925. Fittingly, Dr. Ley has written the introduction to Felix' staggeringly impressive, "The Exploration of the Solar System," "an attempt to outline the development of astronautics over the next 150 years."

FELIX GODSON

Heavily peppered with formulas and plans for Venus mobile rockets and Mars reconnaisance planes, much of the 200-page volume was read by scientists at the Smithsonian Astrophysical Observatory. They found it "accurate in detail and interpretation and a potentially valuable contribution to the literature of astrophysics." They added, "The author demonstrates a grasp of astronautical science quite extraordinary for one so young. With continued development he should make a name for himself in the field.

Extra-Terrestrial Tours.

No science fiction exercise, the book covers, in considerable detail, actual plans for trips to the moon, Mars, Venus, Saturn, Jupiter and Mercury. The author also corrects what he believes to be a failing in all too many books on astronautics. He stressed colonization. "The final object should be the carrying out of geophysical investigations — not the mere planting of a flag permitting eventually voyages of reasonable duration to this system's most distant worlds."

At 12, while studying on a [illegible], Felix began borrowing from the library six to eight technical books at a time. "I read them while sitting through football games in the back row of the bleachers." At 15, when he had occasion to spend a holiday alone at school, he worked on a design for an anti-missile missile, the Mark 40 Rigel.

But it was not until Felix was 16 that he settled down to the serious study of astronautics.

Inhibiting Skepticism.

"Up to that time most people seemed very disinclined to take the idea of space travel seriously and this attitude had made me hesitant to take an interest in it myself."

In his free time he has several projects, ranging from plans for an ideal weapons system for the defense of the free world to the possibility of producing a one-celled animal capable of organization into what one might term a truly living creature.

Eventually, he hopes to become a research physicist "ideally, in some field as fundamental and intriguing as the nature of gravity." Felix likes all space study because, "unlike other fields, it is free from the influence of other people's long-established ideas."

Course for Parents At Settlement House

A course to teach parents how to help their high school and junior high school youngsters make decisions concerning schooling, special training and careers has just begun at the Henry Street Settlement, 265 Henry St. The six-session program, sponsored by the settlement, together with B'nai Brith's Dickstein Chapter 910 and its Federation Vocational Counseling Program, will be geared to neighborhood parents of secondary-school children.

T World Telegram Sun
10 May 1960

Rocket Plane Fails; Inventor to Try Anew

Boro Philatelist Among Disappointed Sponsors as Catapult Spouts Fire but Rises Only Thirty Feet in Two Tests

FEB 10 1936

Greenwood Lake, N. Y., Feb. 10 (AP)—Undaunted by two failures, sponsors of an attempt to fly a rocket plane across Greenwood Lake to Hewitt, N. J., went ahead today with plans to try it again next Sunday.

A cargo of 6,127 pieces of mail, furnished by stamp collectors, was to have been whisked through the air had yesterday's experiment succeeded. The mail will be kept in a vault here, it was announced, to await the next attempt.

The craft used is a 25-foot duralumin glider. It burns a fuel combination of oxygen, alcohol and ethyl gasoline, through which nitrogen is forced. A torch is applied to its tail, which is supposed to send it hurtling through the air as it is released from a catapult.

Flames Quickly Die

Willy Ley of Berlin, vice president of the German Rocket Society, applied the torch twice yesterday. While Nathan Carver, New York engineer, maneuvered the catapult release cable. Frido Kessler, Brooklyn stamp collector and chief sponsor of the project, stood hopefully nearby.

On the first attempt, flames roared from the rocket's tail and the glider quivered on its catapult, but it did not vault the two and one-half miles across the lake in one fell swoop. In fact, the flames died out in ten seconds.

So they tried again. The flames thundered, the catapult was released, the glider shot upward for perhaps 30 feet, and then plunged down into the snow, undamaged.

Kessler said the frozen condition of the catapult cable prevented release of the machine before the power was exhausted. Justin L. Bacharach of New York, an official witness, explained that yesterday's heavy snowfall made the atmosphere so humid that the liquid oxygen in the rocket tank warmed up and froze, closing the pipes and preventing generation of sufficient power to send off the little craft at full speed. He estimated that speed at 500 miles an hour.

Try Again Next Sunday

Disappointed but by not means disheartened at yesterday's unsuccessful demonstration, Kessler said simply:

"We will fly the ship next Sunday."

↑N.Y.N.Y.
Brooklyn Eagle
10 Feb 1936

CITY MAIL DELIVERY BY ROCKETS VISIONED

System Already in Use Between 2 Austrian Villages, German Expert Says on Arrival Here.

Speedy transfer of mail among the boroughs of New York City by rockets was discussed as a possibility today by Willy Ley, German rocket expert and president of the German Interplanetary Assn., upon his arrival here aboard the Olympic.

The scientist, who is the guest of G. Edward Pendray, president of the American Rocket Society, 491 Westchester Ave., Crestwood, N. Y., explained mail delivery had been accomplished by rocket between the villages of Schockel and Radegund in Austria, two and a half miles apart and separated by a mountain. With a higher fuel content, the rockets easily might deliver mail from Manhattan to the Bronx, or from Queens to Staten Island, he said.

The use of rockets for launching airplanes economically is feasible, Mr. Ley said.

↑World Telegram
21 Feb 1935
NY NY

N.Y. N.Y. Post 11 Oct 1949

All Aboard--25 Years (?)--for a Trip to the Moon

By WAMBLY BALD

In this age of fear and wonders, it is good sometimes to dream of going to the moon.

It's not an idle dream, says an eminent rocket scientist, German-born Willy Ley. He believes that within 25 years man may get to the moon, linger a while, and come back to talk about it. Recent Army experiments at the White Sands Proving Grounds in New Mexico, according to Ley, prove that earth-bound man is on the march to the moon. And atomic power may open the final way.

"It can be done within our lifetime," Ley said. "The trip to the moon would take about [illegible] hours, one way." He held up a rocket bazooka. "It's all based on the same principle as this. It's no longer a matter of invention; it's now purely a matter of development.

"The technique of large rockets, as you know, was worked out during the war. After the war was over the Army began experimenting with V-2s captured in Germany and substituted at the tips a ton of scientific instruments for a ton of warhead.

"Early this year the Army fired a rocket to an altitude of 250 miles, which is far above the upper limit of the ionosphere. There's a real beginning. The big problem is one of velocity, not distance. If we can get a rocket to move faster than seven miles per second it can go anywhere. Already we have stepped up the V-2 from one mile per second to one and a half."

First We'll Create
A Satellite in the Deep Blue

He spoke of the "step system," a relay rocket principle whose mathematical laws are comprehensible to scientists. He talked with an assurance that definitely would have gratified Johannes Kepler, the astronomer who established the laws of planetary orbits.

"The immediate aim is not a trip to the moon," he said. "It must all come by degrees, for it's a matter of constant development. First we want to create a rocket that will take off, free itself of the earth's influence, and encircle the earth permanently as a satellite. Then we can follow its orbital course with our radar and telescopes.

"The second step is to build a pilotless rocket ship that will reach the moon, and after that one with a pilot who can make the round trip without landing. And then, the last objective—he lands!"

Getting Back Again—
Maybe It Can Be Done

But how is the pilot going to get back?

"A radar-beam might provide the answer for the return trip," Ley answered. "In January, 1946, the Signal Corps bounced a beam off the moon."

Asked how the pilot could land at such a terrific speed, he gave an explanation that involved ship rockets fired in reverse, powerful brakes and the earth's gravity. The ambitious vehicle would skid a few times on the ionosphere before reaching the earth. Wouldn't such terrific speed give the pilot a headache?

"Speed per se has no influence on the human body," he answered. "We are traveling around the sun at the rate of almost 20 miles per second and we don't even feel it."

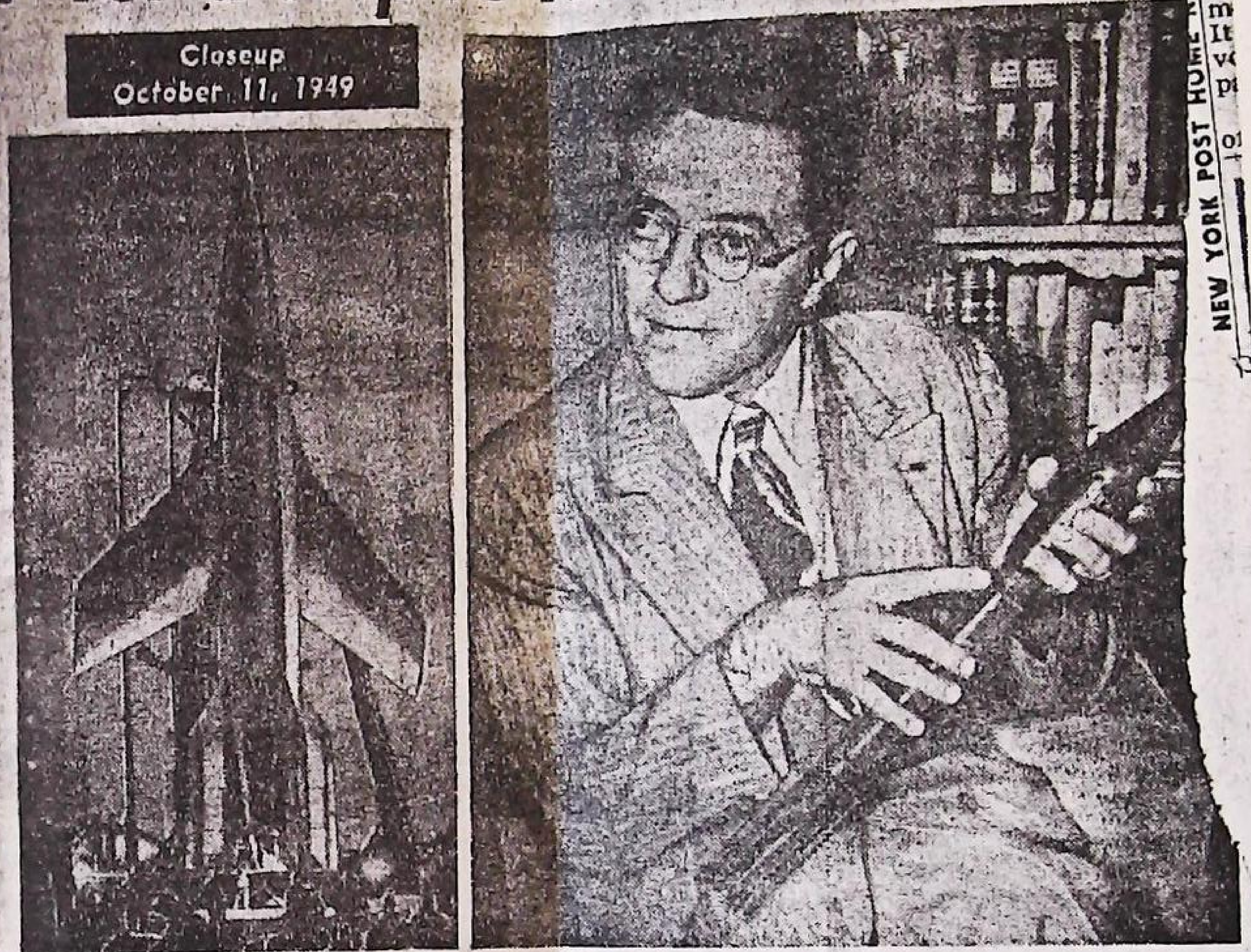
We'll Need Air Suits
When We Land on Luna

In answer to astronomers who say there is no air on the moon, Ley discussed specially constructed air suits which would give the pilot a chance to fool around there for a while.

"His supplies could include manufactured air reserves," Ley said. "And it is conceivable to seal up a cave on the moon and fill it with manufactured air. In that way scientists could prolong their stay. This idea seems plausible to Dr. R. S. Richardson, the sun specialist of Mt. Wilson Observatory who has described in detail how he would build an observatory on the moon, one that would give him unimpeded vision. It's been his complaint that the earth's atmosphere blurs his vision; but there would be no such problem on the moon."

Dr. Richardson, who maintains an extensive correspondence with Ley, read the proofs on the latter's most recent book, "The Conquest of Space," published by the Viking Press. Ley's previous books include "Rockets" and "Rockets and Space Travel."

Closeup
October 11, 1949



WILLY LEY, true believer in the conquest of solar space, fingering model 'bazooka,' and, at left, artist Chesley Bonestell's conception of a huge rocket raring to go. Staff Photo by Gaston

His latest book is a collaborative effort with the artist, Chesley Bonestell, whose imaginative, color - rich illustrations were termed by Ley "the product of a poetical mathematician with a paint brush."

Born in Berlin, the scientific author-lecturer was a founder of the pioneering German Rocket Society in 1927. For years before Hitler's rise to power he was co-editor of the society's monthly journal, Die Rakete (The Rocket) and he arrived in New York in 1935. Recently he was elected Honorary Member of the revived German Rocket Society in the U.S. Zone of Occupation; and he is a member of the American Ordnance Assn., the British Interplanetary Society, and the Institute of the Aeronautical Sciences of the American Assn. for the Advancement of Science.

During the war Ley was a director of engineering with an aircraft corporation in Atlanta, and for a time he was consultant to the Office of Technical Services of the Dept. of Commerce. Another job he held was as science editor on the late newspaper, PM, and there he encountered Olga, a former ballet dancer who was doing a keep-fit column. The two were married one month after they first met, and they live in Montvale, N. J., with their two daughters.

Too Old, Maybe,
But Willing to Go

Willy Ley is a stocky, vigorous person, smokes cigars, swims, and does a lot of cycling. He can also play the piano. But his great fervor is the study of rocket travel, and he is constantly reading, lecturing and corresponding on the subject. Asked if he would take a chance himself on a trip to the moon, he said, "I'm a little too old (43) but I'd go in a minute if they would take me. Down at White Sands there is a whole file of letters from people anxious to volunteer. Of course the trip would involve great risk. It would not be a picnic."

Ley said a man on the moon could easily see the earth with his naked eye, even if he were a short-sighted person, and a short-sighted person wouldn't be selected anyway. It gets very hot and cold out there, with temperatures ranging from above the boiling point to about 150 degrees below zero. So life would not be very cozy on the moon.

Man can meanwhile consider the first objective, firing a great rocket that will permanently encircle the earth.

Ley, who predicts this may be accomplished within eight years, sees no reason why under the circumstances we couldn't follow the satellite's course through the alleys of infinity with an arrangement of television instruments.

That would give us a permanent TV show, never ceasing to enthrall, and possibly even more wonderful than Milton Berle's TV program on Tuesday nights.

It—That's the Bronx Mail

German Proposes Postal Service by Rockets for Borough to Borough Deliveries.

"Duck into the cellar, the mail is coming," is likely to be a new warning cry in New York suburbs if Willy Ley, who reached New York today on the White Star liner Olympic, knows what he is talking about. Mr. Ley has been experimenting in Germany since 1926 on the use of rockets in propelling mechanical devices, and he is here to discuss with G. Edward Pendray, president of the American Rocket Society, whose guest he is to be at Crestwood, Westchester county, the feasibility of shooting mail by rockets from borough to borough.

"Of course, the prospect that the rocket will land where it is aimed at is about two out of a hundred," said Mr. Ley, "but that should prove no obstacle in New York, where every part of the city is convenient to water. Mail has been carried by rockets between Schockel and Rudegund in Austria, a distance of two and a half miles. There is a mountain between the two towns, and the rockets, on attaining their set altitude, opened up and released a parachute which floated gently to earth with the mail."

"But what became of the rocket?" asked a spellbound listener.

Miniature Motor Next.

"Oh, the rocket," said Mr. Ley. "We have been working on a theory that liquid fuel, feeding a miniature motor, is a more effective propulsive agent than gunpowder, which was used in the experiments."

"You mean to say," asked the listener, "that you launched these rockets like bombs with no idea where they were going to land?"

"Ach," said the inventor, "we knew they were coming down somewhere. What goes up must come down. Is it not so?"

"That's swell," said the listener. "If we adopt your method of delivering mail we'll have to look up to see that we are not going to be beaned by a United States mail rocket, and at the same time look ahead of and behind us for automobiles, and keep our eyes on the ground to avoid being blown up by exploding manhole covers."

Passengers Perhaps.

"But that is not all," said Herr Ley, who doesn't understand English very well. "Experiments with human passengers are being worked upon in Russia. The preliminary steps are to study the effects upon the human body of being carried through the air at a speed only slightly less than that of a cannon shot. The principle of the parachute would work out with a human passenger in the same manner as with a mail rocket."

"And after the human passenger bails out from a rocket going as fast as a cannon ball," said the still spellbound listener "the rocket will still keep on going."

"It would be quite possible to send a rocket to the moon," said Willy Ley, "if we could only devise a rocket which would carry thirty times its own weight in fuel and can discover a hard metal of great lightness in weight."

Other Passengers.

Other passengers on the Olympic were Michael E. Balcolm, production head of the Gaumont British studios, who is en route to Hollywood to discuss a plan for the exchange of British stars for American players; M. L. Fiske, third vice-president of First Division motion pictures, returning from a stay of three months in Europe, who said that Gracie Fields, the English star, has signed a contract with Associated Pictures to make four films in 936 for which she will be paid at the rate of $15 a minute, or about 375,000 a year; Dame Rachel rowdy, British peace worker, and Major L. Stuart MacPhail, president of Sparklets Corporation of New York, who thinks the depression is ended.

FEB 21 1935

↑N.Y. N.Y. Sun
21 Feb 1935

TV Camera May Be Sent Along Soon

Dr. Willy Ley is one of the nation's best-known authorities on interplanetary travel. His book, "Rocket Missiles and Space Travel," is considered the standard work on the subject. He was born in Germany and was one of the founders of the German society for space travel. He has been a United States citizen for more than 10 years. In the following dispatch, Dr. Ley analyzes the significance of the Washington announcement on plans for a satellite.

By Dr. WILLY LEY,
As Told to United Press.

HIGHLANDS, N. J., July 30—The decision to launch the first artificial unmanned satellite opens the age of space travel to man.

The small satellite announced yesterday will be the first step into space and will be followed by more just as the first airplane led to more and bigger airplanes.

The first man-made earth satellite—for which the components already exist—will be an awkward, fledging flight.

Better Versions Coming.

But it will demonstrate man's power to snap the gravitational shackles which have kept him and his workers earthbound until now. It will mean that the no-trespassing signs are coming down among the planets. The first satellite will be followed by improved versions as the science develops.

Scientists have long been prodding each other and the government to get going on a project to launch small, unmanned "space ships" to explore the vast unknown which exists at the top of earth's atmosphere.

The second satellite will no doubt be bigger, more elaborate and longer-lasting. The third or fourth may well carry a television camera to show us what the planet earth looks like when seen from space.

Manned Stations Possible.

By that time, a man-carrying rocket ship will be launched into an orbit around the earth and after that engineers will begin to plan manned space stations.

The profoundly significant thing about the U. S. announcement is the revelation that the means are at hand to break the space barrier.

Up to now no object launched by man has managed to break or balance the pull of gravity. All of the experimental rockets launched at White Sands, N. Mex.—including one two-stage device that soared to an altitude of 250 miles—have fallen back to earth.

But scientists of many countries agree that the propellants and heat resistant materials are now at hand to pierce the atmosphere and hang at least a small "moon" in the sky for a matter of days or weeks—possibly, later on, for years.

Sen. Warren G. Magnuson (D., Wash.) echoed the thought of many space travel enthusiasts when he said, "It will probably lead to further scientific knowledge and possibly to interplanetary communication

World Telegram Sun
30 July 1955

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and transportation."

The White House announcement said the satellite will clarify "the difficulties that would have to be overcome when man goes beyond the earth's atmosphere in his travels."

Rocket experts have known since 1925 that an artificial satellite was a technological possibility but needed the development of large liquid fuel rockets to become reality.

In principle, the problem is not very difficult. If a rocket, or missile, is moving outside the earth's atmosphere with the velocity of 4½ miles per second, about three times as fast as the fastest missile has accomplished so far, it will not return to the ground.

It is by no means outside the earth's gravity but the speed of the missile and the gravitational pull of the earth will balance each other. The curve described by the missile and the surface of the earth will form two concentric circles.

Only if the missile is placed at a height where there is still a small amount of air resistance left would it lose both speed and altitude. In other words its orbit will not be a closed circle but a tight spiral and when it reaches sufficiently dense layers of the atmosphere it will burn up like a falling star.

To put a missile into such an orbit will need what rocket engineers call a three-stage rocket, which means a rocket consisting of three sections all independently powered. As the fuel supply of the first stage becomes exhausted the second stage will take over, leaving the burned out first stage behind. A minute or so later the same performance will be repeated by a third stage which will leave the second stage behind. Only the third stage will reach space. The first two will fall.

30 July 1955 World Telegram Sun – N.Y.

Space Seminars Offered at LIU

Ley, Pickering Named to Staff

"Man in Space" programs will be offered this fall at the Brooklyn center of Long Island University by two outstanding authorities in the field.

Willy Ley, a pioneer in the development of rocket technology and space exploration, and James S. Pickering, assistant astronomer at the Hayden Planetarium, have joined the faculty as visiting professors for the fall semester. They will jointly conduct a seminar in "Man and Space," which will be part of the Brooklyn center's "distinguished seminar" program.

Other distinguished seminar professors for the fall semester are Dr. Horace M. Kallen, the philosopher and historian and former dean of the New School for Social Research, who will conduct a seminar in "Problems of Freedom in the Free Society," and Joseph Papp, founder and producer of the New York Shakespeare Festival, whose seminar will be on "Shakespeare in a Changing World."

The distinguished seminar program was introduced by provost William M. Birenbaum last year "to give students an opportunity to become intimately acquainted with the ideas and personalities of outstanding men of achievement who live and work in the city."

World Telegram
Sun, N.Y. N.Y.
Sept 1 - 1965

entist indicated his delegation would read a number of

Soviet Says Moon'sRocket Is 2d Satellite

By DANIEL F. GILMORE,
United Press Staff Writer.

LONDON, Oct. 7.—Radio Moscow announced today that part of the missile which launched Russia's satellite is also encircling the earth in a moon-like orbit of its own.

The last stage of the rocket apparently was caught in space and became a second satellite.

"It is not only the satellite which is being watched," Radio Moscow said, "but also the rocket that carried it into the orbit.

"This rocket is also encircling the earth at approximately the same altitude as the satellite.

680 Miles Apart.

"But it is separated from it by some 1000 kilometers (680 miles). This distance will alter in the future."

This announcement was the latest in Russia's stepped-up scientific and propaganda battle with the West. Shortly before, it reported it had exploded a new hydrogen warhead on Sunday. This came only a few days behind Moscow's achievement of launching the first earth sattellite into outer space.

Tracking the shell, as well as the satellite would provide highly important information on the character of space.

No Surprise.

Moscow's disclosure was not a surprise to scientists.

Theoretically, anything fired outside the earth's atmosphere and gravitational field at sufficient speed would become a

Continued on Page Two.

↑World Telegram
Sun, N.Y. N.Y.
7 Oct 1957

LATFORMS IN SKY NOW SEEN FEASIBLE

Rocket Experts Are Told to Expect Devices Suspended In the Earth's Orbit

ROTATING AS SATELLITES

Advice to Space Travelers Is to Use Bumpers to Avoid Damage From Meteors

Buck Rogers and Captain Video would have felt right at home yesterday with a group of fascinated scientists who listened to speculations on the future of interplanetary travel. They heard that the next likely step upward would be shooting out a rocket to be suspended in the earth's orbit, rotating with it as a satellite.

Dr. Willy Ley, author and rocket authority, discussing the two-stage rocket that ascended 250 miles two years ago from New Sands, N. M., declared that such a rocket might be practical anywhere from 350 to 22,300 miles above the earth. Present plans call for it to be unmanned.

The theory, which he declared "possible in present-day rocket engineering," was explained at the first annual Symposium on Space Travel at the Hayden Planetarium. It was attended by 800 authorities in astronomy, aviation, engineering, medicine, geophysics, electronics and international law.

"The rocket, once it has reached its orbit and has the proper velocity for that orbit, will no longer require any fuel expenditure," Mr. Ley said, "it will have been converted from a piece of our planet to a self-sufficient member of the solar system, more precisely one of the satellites."

Advantages of Orbit Locale

Although he said that the next step in space might even be the sending of an unmanned rocket to crash on the moon, Mr. Ley preferred the space platform idea. Among its advantages he mentioned aid to navigation, visually at times and all the time as a radar fix.

If such a station could be manned, he said, it would be invaluable as a research laboratory where a good vacuum was needed. It could also serve as a fuel supply

↑N.Y. N.Y. Times
13 Oct 1951

New LaMarca Stay
Granted by Harriman

pecial to World-Telegram and Sun.

ALBANY, Oct. 7.—Gov. Averell Harriman today again stayed the execution of Angelo LaMarca until Oct. 24, to give

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7, 1957

orts Sputnik's Rocket
th as 2nd Satellite

Continued From Page One

satellite, regardless of shape or design.

Today's announcement came as American scientists in Barcelona reported Soviet scientists far along in studies of a space ship that can visit the moon and return. The Russians reported Soviet armed forces volunteers already were undergoing space travel tests.

Attending Congress.

The scientists are attending the eighth International Astronautical Congress in Barcelona.

The American scientists in Barcelona said the Russians' ability to launch their satellites "with no failures" meant flights to the moon could come in two years—or sooner.

Big Development Hinted.

Moscow newspapers hinted that some more startling development than the satellite was in the works and told readers to watch for "something special" on Nov. 7, 40th anniversary of the Bolshevik revolution in 1917.

[The Soviet government newspaper, Izvestia, and several leading scientists in Moscow, announcing the next targets in the satellite program, said that in time—the Russians didn't say when—a satellite would be sent up which can be brought back to earth intact and would not burn up when it re-entered denser atmosphere, as the Sputnik will. And then, the statements added, the Russians will dispatch a satellite that will go around the moon before returning to the earth, the Associated Press said.]

The American scientists said they had learned the Russians had completed computations of the orbit a space vehicle would have to follow to land on the moon or circle it and return to earth.

Electronic Brains.

The Russians are working with electronic brains on a more refined calculation for a trajectory which would circle the moon and re-enter the earth's atmosphere obliquely. When this is perfected, the way will be clear to sending spacemen 250,000 miles to the blind side of the moon, which we never see, with a reasonable chance they will be able to return safely.

The American scientists quoted a Russian delegate as saying the study of space travel effects on humans already was far advanced in the Soviet Union. They said the volunteers were undergoing tests simulating the conditions they might meet in a round trip to the moon. The tests were devised from the study of animals sent up in rockets.

Scientists said a trip to the moon might take three days to a week. But, first, the Soviets want to know more about the dangers of cosmic radiation and small meteorites. They expect to learn this from satellites containing instruments.

'Very Important' Papers.

Another Soviet scientist said a satellite to detect cosmic radiation was being prepared when they left Moscow. The scientist indicated his delegation would read a number of "very important" papers during the current congress.

In Moscow, geophysicist Yevgeni Fedorov, in charge of Russia's upper atmosphere research program, said the Soviets were working on the problem of the return of future satellites to earth with all their apparatus. Such a satellite might prove of immense military value.

The satellite itself continued its unchecked orbit around the earth and was reported sighted in a number of places—Alaska, Australia, Estonia and Russia itself. It has now traveled more than twice the distance from the earth to the moon.

Seen in Australia.

Australian astronomer Mark Bok reported that thousands of residents of Canberra saw the artificial satellite with the naked eye today. Mr. Bok said the shining object was observed for three minutes as it passed overhead.

Additional thousands of persons in the Australian state of Victoria were reported to have seen the satellite at 5:47 a.m. EDT today. It was described as a pinpoint of light visible for periods ranging from 25 seconds to a minute and a half.

Five persons in Stockholm said they saw the satellite as it crossed Swedish territory this morning.

Path Announced.

In this connection, Dr. John P. Hagen, chief of the United States satellite Project Vanguard said better tracking facilities in the United States might enable America to announce the exact course of the sphere before the Soviets.

However, Radio Moscow announced today the path of the satellite during today and tomorrow. It passed over New York and Washington last night.

The first confirmed sighting came from Alaska, where Dr. Gordon Little reported he watched the "surprisingly bright" satellite at dawn yesterday.

Military potentialities of the satellite and future space projectiles caused grave concern in some Western military circles.

British Prime Minister Harold Macmillan called for the fullest possible scientific investigation of the Russian satellite. Britain does not have such a program, but has been in close touch with the United States, and Mr. Macmillan may press for closer British participation in the program.

North Atlantic Treaty Organization leaders expressed concern at the huge propaganda value of the satellite—that so-called "neutral" countries might be frightened into turning toward the Soviets.

European Belief.

Paul Hansen, Denmark's defense minister, said it was premature to talk about a "dislocation of military balance" in the world as a result of the satellite.

General belief in Europe was that the United States would now throw more resources and manpower into the missiles race.

In New York, rocket expert Willy Ley said the U.S. could ~~have launched~~ have launched a satellite a year ago if America had engaged in a "crash program." In Washington, the magazine Aviation Week said the U.S. missile program was lagging from a shortage of funds resulting from a lack of high official interest.

Big Blow Dies Out Along East Coast

By the United Press.

WASHINGTON, Oct. 7.—A near-hurricane storm sputtered out today after hammering the middle of the east coast with strong winds, high tides and torrential rain.

Storm warnings were lowered along the coast as the storm slowed to 15 miles an hour over Maryland and Pennsylvania.

At its height yesterday the blow whipped into the Norfolk, Va., area, banging two ships together and forcing a coastal ferry to ride out heavy seas for several hours with 12 persons aboard.

Heavy rains fell along a broad stretch of the Atlantic seaboard from the Carolinas to New York. In Virginia, water rose to a foot in depth along omedowntown Norfolk streets, but little damage was reported. A fire during the storm caused about $100,000 damage, burning four homes, but no one was hurt.

↑ World Telegram Sun, N.Y. N.Y.
7 Oct 1957

Space Ships To Hang Like a Moon

By ALLAN KELLER,
Staff Writer.

Like the atom bomb, which seemed simple after theoretical scientists had put one togeather, a space ship or artificial satellite shouldn't be too difficult to build—in theory.

All that would have to be done, say the scientists, is to build a ship with a power plant powerful enough to drive it through the atmosphere that lies like a thick belt around the earth and beyond the most potent drag of the earth's gravity.

Then the space ship could shut off its motors and stay in the sky as if anchored with invisible cables.

Rumored For Years.

Rumors of an artificial satellite have been knocking around Washington for several years.

In 1949 the Curtiss Wright Corp. found it had backed up against a buzz saw for printing a chart showing the altitudes and speed a space ship would require.

On Feb. 16, of that [illegible] it was reported that top-secret research was going on over a 10,000-mile-an-hour space ship that might one day give us command of the upper air and world domination.

At that time it was said that study was going forward with rocket motors to power the space ship's projection into outer space. Once beyond the various layers of atmosphere blanketing the earth, it was theorized, the ship would hang at any desired distance like a small moon in its constant orbit, held by the earth's pull.

Dr. Ley Convinced.

Dr. Willy Ley, the great German scientist who feathered the V-1 and V-2 rockets which Hitler used in his bid for world

Continued on Page Two.

World Telegram
Sun, N.Y. N.Y.
29 July 1955

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expressed belief that the for
eign ministers can arrive a
constructive decisions rapidl
"If the negotiators show
themselves animated by th
same desire for relaxation o
tension and for understand
ing which was shown at th
Geneva conference."

The British press sharpl

Continued From Page One

conquest, is convinced space ships are feasible.

Dr. Ley said such an interplanetary body could operate easily at any distance between 350 and 22,300 miles of fthe surface of the earth.

"A rocket, once it has reached its desired orbit and has the proper velocity for that orbit," said Dr. Ley, "it can shut off its motors and will need no further fuel expenditure."

Any such space ship, it was pointed out, would be invaluable as a research laboratory, an astronomical observatory, an [illegible] to navigation and a [illegible] point.

No Weather Worries.

At the suggested distance above the earth the ship would not have to worry about the weather. It would be above storms. Perhaps its worst enemies would be meteors and showers of meteorites. Even here, it was said, an outer skin of aluminum or "meteor bumper" should break the impact of all but the largest of stray celestial bodies.

The government scientists already know more about space ships than the laymen dreams possible.

Several years ago a two-stage rocket was sent up from the proving grounds at White Sands, N. Mex. Not too much has been revealed about what was discovered by this flight or what the many instruments the rocket head carried recorded.

But it is known that it went 250 miles into the sky—almost exactly the altitude mentioned in today's announcement as the planned orbital position of the projected satellites.

World TelegramSun
29 July 1955

Strange Flash Baffles Space-Travel Wizards

By WILLIAM H. RUDY,
Staff Writer.

Zeroed in by a cloud of diabolic, parabolic curves, some 200 geophysicists, astronomers, Army and Navy aviation officers, engineers and intrepid birdmen took part today in the first symposium on space travel. The symposium will be an annual affair at the Hayden Planetarium.

On Columbus Day, fittingly enough, they heard not only of the progress made in the conquest of space, but of the problems of the coming flights to the moon and Mars. They also gazed at a strange object which they could not identify.

Something Goes Wrong.

An incident heartening to the less adventurous occurred at the start of the speech by Dr. Fred L. Whipple, of the Harvard University astronomy department.

Mr. Whipple called for a slide to be flashed on the planetarium dome and a weird figure appeared.

"I don't know what that is," said Mr. Whipple. "I guess they got the wrong slide."

Takeoff Is Delayed.

There was no sense of urgency. The space ship was not taking off today, or tomorrow. Willie Ley, symposium master of ceremonies, in answer to a question said the interplanetary platform satellite might go up in as few as five years, but he didn't say anyone would be on it. There were other references to 100 and 150 years.

The fact that the Hayden Planetarium, that good, gray appendage to the ancient American Museum of Natural History, was the scene of such a symposium was the measure of how far the interspace industry has progressed in the last few years.

It may not happen in your lifetime, but it is a fact that reputable scientists today, Oct. 12, 1951, were discussing seriously the interplanetary rights of nations. How far up does national sovereignty extend? Should the moon and Mars be staked out for squatters like the Oklahoma Territory?

Mr. Ley, who sometimes gives the impression he is ready to take off tomorrow, was optimistic, but there was some talk of difficulties. The ticket booths are not being built.

Heinz Haber, a scientist who once built rockets for Hitler and who now is with the Department of Space Medicine, United States Air Force School of Aviation

(Continued on Page Two.)

World Telegram Sun
N.Y. N.Y.
12 Oct 1951

15.95
9.95
4.95
3.95

From Page One.)

Medicine, Randolph Field, Tex., brought out some of the difficulties.

Interspace scientists talk glibly about weightlessness, a sort of suspended animation, in which Earth residents will travel some day to Saturn.

Interplanetary Law.

Herr Haber said that weightlessness could have some disadvantages to the normal human. He might raise his hand to scratch his chin, he said in effect, and due to some odd reaction of the universe on his mechano-reactors, hit himself in the eye.

A good deal of the discussion was in the realm of never-never land. None more so than that of Oscar Schachter of the legal department of the United Nations.

Mr. Schachter, who will go down in history as the first barrister to move in on the problem of jurisdiction over Uranus, discussed interplanetary rights but didn't seem worried about their immediacy. He said the U.N. had terrestial problems to settle first.

World Telegram Sun
N.Y. N.Y.
12 Oct 1951

depot for ships setting out on interplanetary journeys.

"As an astronomical observatory," he declared, "it would be far superior to any on earth since bad weather absolutely cannot get in the way. But it would also be an earth-watching station. It could keep track of icebergs and hurricanes."

Although, with the other speakers, Mr. Ley was reluctant to predict exactly when space travel would be feasible, he had an answer to a question as to whether a space platform could be used as a military base.

"It would not be a serious military threat for at least five years," he said. "Beyond that, I cannot commit myself."

Robert P. Haviland, project engineer for the White Sands test, was to have given a paper on the platform's possibilities as a television relay station. His employer, the General Electric Company, forbade him on Thursday to read it because "some of the conclusions were found to be controversial."

A spokesman for the company said yesterday that the paper had been passed by the Pentagon and denied that any security regulations were involved. He held that the company's TV engineers "objected because they thought it too blue-sky and speculative at present."

Guidance For the Navigators

Fred L. Whipple, chairman of the Harvard University Department of Astronomy, gave this advice to future space travelers: avoid the orbits of comets; avoid the plane of the earth's orbit as much as possible, particularly between Mars and Jupiter in the asteroid belt; use a "bumper" to prevent meteors from penetrating the ship's aluminum skin.

"Most penetration," he said, "would be eliminated by a 'meteor bumper,' a second skin of small thickness a short distance outside the true skin of the ship. Meteorites would 'explode' on that 'bumper' and lose most of their power of penetration."

"Space-sickness" was suggested by Dr. Heinz Haber of the Air Force's department of space medicine at Randolph Field, Tex. He said there was no difference between supplying oxygen to space pilots and airplane pilots because "the weightless condition to which a space pilot would be subjected most of the time is not going to influence breathing or circulation noticeably—it is the nervous system that needs watching."

In a talk on "Legal Aspects of Space Travel," Oscar Schachter, deputy director of the United Nations Legal Department, said it would have to be determined some day how far upward national sovereignty extended. He remarked that the United Nations "has enough problems in its hands right now" to be concerned with interplanetary ones.

World Telegram
Sun, N.Y. N.Y.
3 May 1958 ?

Ley Contends New Vanguard Satellite Could Have Been Built 50 Years Ago

Special to The New York Times.

SANDS POINT, L. I., April 21—Lack of theory was the only reason why the new Vanguard satellite could not have been built as early as 1900, according to Willy Ley, rocket expert.

The Vanguard is a high-altitude research rocket designed to soar into space and give the earth its first man-made moon. It is a project of the United States Navy and is to be launched from the Air Force Missile Test Center, Cocoa, Fla., as part of the International Geophysical Year 1957-58.

Mr. Ley has told a group of research engineers and scientists here that the Vanguard will speed the day of intercontinental rocket passenger service. He spoke before fifty Naval Reserve officers, mostly specialists, at the Navy Special Devices Center. They had gathered for a two-week seminar that ended yesterday.

According to Mr. Ley, all of the materials and mechanisms needed by engineers to build the Vanguard were known and in use by 1900, but there was no theory that said it could be done.

"Sheet steel and angle iron were in use as structural material, there were meteorological instruments that could have been very revealing if carried aloft, guiding would have been no complication for a mere vertical shot and liquid oxygen fuel was known, as was rocket motors and centrifugal pumps," Mr. Ley explained.

"The theory started growing up on both sides during World War I," he continued. "Most of the development work was done in Germany after that until World War II started."

Mr. Ley said that a major problem now facing development of two-miles-a-second flight and missiles with a 5,000-mile range was re-entry into the earth's heavier atmosphere, the area in which the tiny "moon" will burn out like a meteorite.

The re-entry problem, however, is expected to be solved in the forthcoming geophysical year and in subsequent satellite "shots," he said.

Mr. Ley was a pioneer in rocket development in Germany. He left for an "extended vacation" in 1935, after Hitler came to power, and never returned.

Mr. Ley told the reservists that long-range ballistics actually was applied astronomy, adding that a shot fired for a distance of thirty miles created a temporary satellite.

During a lengthy question and answer period at the end of his address, Mr. Ley was asked about flying saucers from other planets.

"I am convinced that nothing is being suppressed by the Air Force except the names and addresses of the multitudes reporting the saucers," he declared.

Ley Contends New Vanguard Satellite
N.Y. N.Y. Times 22 April 1956

Russian Moon Rocket Forecast

U.S. Astronomer Calls Launching Entirely Possible

By the United Press.

CAMBRIDGE, Mass., Nov. 4.—A top astronomer said today "it is entirely possible" the Russians already have launched a rocket to the moon.

Dr. Fred L. Whipple, director of the Smithsonian Astrophysical Laboratory, said it would take a rocket about five days to reach the moon. He said the Russians may have launched the moon rocket Saturday.

Dr. Whipple said the rocket could have been equipped with a nuclear warhead that would explode when it hit the moon.

Difficult to Observe.

He said it "would be impossible to see the rocket on the way to the moon unless we know exactly where it was launched."

He said if a telescope were pointed in the right direction at the right time, the rocket might leave a trail on the scope.

Dr. Whipple, head of Harvard University's astronomy department, said firing a missile to the moon would require a "diffrent type of rocketry."

But he added he believed the Russians could do it.

An observatory spokesman later said Dr. Whipple "does not actually believe" the Russians kicked off a moon rocket. The spokesman said Dr. Whipple does think it is "possible."

Dr. Whipple was comment-

Continued on Page Two.

field, the Associated Press reported.]

Rocket authority Willy Ley agreed there was nothing to prevent the Russians from sending an unmanned rocket to the moon. But, he said, the race to get a man there is still wide open.

Mr. Ley said the United States was at least a year behind the Russians in satellite development.

↑World Telegram
Sun, N.Y. N.Y.
4 NOV 1957

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light, half-ton doghouse
inning around the world at
840 miles an hour.
[Lapping the earth every
3.7 minutes, the satellite was

Continued From Page One

ing on another scientist's statement that he thought the Russians may already have reached the moon with a satellite. Dr. Whipple indicated it might have been done in connection with the 40th anniversary of the Russian Revolution.

He said he did not think the fact that the Russians managed to put two satellites in roughly similar orbits necessarily indicated great firing accuracy.

He said the Russians may have fixed Sputnik II's minimum altitude 40 miles lower that the first satellite "deliberately in order to get the dog down easier."

Dr. Whipple said today the new satellite will not be visible in the United States "for a month." He said its passes over the U.S. would be at times either it couldn't be seen because of daylight, or at dawn when it would be too low and too far west of the earth's share zone.

But Dr. Whipple said it may be visible in Canada and the northern latitudes in the morning and in Australia and southern latitudes at night.

Dr. John Rinehart, associate director of the Smithsonian Laboratory, commented: "No matter what we do now, the Russians will beat us to the moon." He said he "wouldn't be surprised" if the Soviets sent a rocket to the moon "within a week."

[Dr. Edward Teller, University of California nuclear scientist often called the "father of the H-bomb," said it was even more evident now that Russia was ahead of the United States in the satellite

field, the Associated Press reported.]

Rocket authority Willy Ley agreed there was nothing to prevent the Russians from sending an unmanned rocket to the moon. But, he said, the race to get a man there is still wide open.

Mr. Ley said the United States was at least a year behind the Russians in satellite development.

↑World Telegram
Sun, N.Y. N.Y.
4 NOV 1957

Sterling North Reviews the Books

"Buy when the market is slack and sell when it is brisk. . . .

"If you are unable to increase your income, reduce your expenditure. . . .

"Avoid buying grain in the expectation of profit; the grain dealer is always branded as disreputable. . . .

"For your part, resist falling in love and guard against becoming a lover, for a lover's life is beset with unhappiness . . . (but). . . Whenever it is that you retire to sleep, refrain from going alone . . . the dead must of necessity sleep alone. . . .

Chesterfield Of 1082 A.D.

"A wife to be good, should be chaste and of sound faith, capable of household management and fond of her husband, modest and God-fearing, brief-tongued, sparing and economical of materials. . . . Yet if a woman is affectionate, handsome and well-behaved, do not submit yourself entirely to her control."

So wrote Kai Ka'Us Ibn Iskandar, Prince of Gurgan, to his favorite son in the year 1082. Translated from the Persian by Reuben Levy, these frequently wise admonitions are now published under the title **A Mirror for Princes** (Dutton). No father, not even Lord Chesterfield, has written more delightfully, shrewdly or lovingly in his attempt to guide a son against pitfalls.

Some of the advice, however, seems a bit dated:

"A mark of the slave suited for employment in the women's apartments is that he should be dark-skinned and sour-visaged and have withered limbs, scanty hair, a shrill voice, thick lips, a flat nose, stubby fingers, a bowed figure and a thin neck . . . beware of a ruddy-complexioned man."

Of current application, however, is his chapter on prosody. We wish that all poets would heed the wise Prince who advised his son to make his verses comprehensible, "because poetry is composed for the benefit of the general public and not for oneself alone."

Ah, Prince, you should be with us at this hour. You have the sort of common sense most of our critics lack.

• • •

Sometimes two books arrive in the same mail that virtually cancel each other out. Frank Schoonmaker's **Dictionary of Wines** (Hastings House) confirms the assertion of the Psalmist David that "Wine maketh glad the heart of man." And before you know it, you are posing as a minor expert on vintages and vineyards. But not if you are also reading for review **Hope and Help for the Alcoholic** by Dr. Harold W. Lovell (Doubleday), who points out among other things the falsity of the assumption that alcoholics' drink only "hard liquor." Incidentally, the good doctor claims that alcoholics are terrible liars, but on the other hand alcoholism is the enemy of baldness. Put bluntly, do you want to keep your reputation for veracity, or do you want to keep your hair?

In any case what use are good intentions? You give up smoking! You go for three weeks without your evening cocktail! And then you pick up Willy Ley's new book entitled **Rockets, Missiles, and Space Travel** (Viking) and learn that there is a real competition afoot between America and Russia to set up the first permanent military staff headquarters on the moon, launch an earth-circling "orbital rocket," and prepare two-stage military rockets "which within a decade will dominate warfare."

Figure it out for yourself. Will two ounces of alcohol and a pack of cigarettes a day get you before an atomic warhead does? And who is inibriated, the man who takes a glass of beer, or the military planners?

Perhaps we should turn back to the Prince of Guran for advice on drinking. Nearly nine hundred years ago he told his son: "On all occasions rise from your wine while you still have room for two glasses more." A very sensible fellow the Old Prince.

↑ World Telegram Sun
29 June 1951

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FLYING SAUCERS.
By Donald H. Menzel. 319 pp. Cambridge: Harvard University Press. $4.75.

Reviewed by
WILLY LEY

CONTRARY to popular belief the "saucers" did not begin to fly in 1947 when Kenneth Arnold, business man and private pilot of Boise, Idaho, saw nine weird shiny disks fly in formation around the slopes of Mt. Rainier. There had been a rather similar case of general saucer excitement—not then called by that name—in 1897. Fifteen years before that, in 1882, several professional astronomers had observed a mile-long "saucer" pass over northern Europe. From still earlier centuries there are old woodcuts, one dated 1697, showing first-class fancy flaming saucers. Pliny's "Natural History," that grand old collection of fact and fancy of the first century, contains definite traces of what would now be called saucers. And Professor Menzel makes a good case for including "Ezekiel's wheels" of the Bible in the collection.

Dr. Menzel's book is, of course, not the first book of this contemporary puzzle. It was preceded by four others of varying appeal and value (and veracity). The first, in chronological order of appearance, Donald Keyhoe's "The Flying Saucers Are Real" might be called an honest journalistic effort to piece together rumors and contradictory reports and to pierce then prevailing official secrecy. The conclusion reached was that the saucers were alien spaceships and that the government, specifically the Air Force, was aware of that fact but wanted to prepare the public slowly for the big surprise. The second, Frank Scully's "Behind the Flying Saucers," raucous in tone and hopelessly unreliable in even the simplest scientific detail, claimed to "know" that the saucers were from Venus, manned by little green men 24 or maybe 28 inches tall; it has meanwhile been exposed. The third, by Gerard Heard which might just as well be fiction, advanced the idea that the saucers are from Mars, "manned" by super-insects related to our honey bees. The fourth, by two enthusiastic saucer hunters, Palmer and Arnold, mostly relates their personal adventures and carefully draws the conclusion that the saucers most probably are not of interplanetary origin.

This listing indicates that the explanation most strongly favored—let us not assume that it was for reasons of sales appeal only—was that of interplanetary visitors. It tied in nicely with a well-established science fiction tradition; humanity had exploded its first atomic bombs and occasional rockets had risen beyond the atmosphere: that was the time for the interplanetary or interstellar watchers to investigate the new civilization which would not stay planet-bound much longer. But even for those who had never heard of science fiction the idea of visitors from space was both appalling and appealing. Two other ideas which were floating around for a while, namely that the "saucers" were either secret weapons of our own Armed Forces or Russian spying devices, did not show much durability. And small wonder; what is the chance, in appeal to the imagination, of a mechanical spy capable of making an 8,000-mile round trip when confronted by a ship from deep space capable of making an 80 million-mile round trip?

H-T APR 5-1953

Mr. Donald H. Menzel is by no means opposed to space travel—our own, that is. On the contrary, in many places of the book he makes it quite clear that he considers humanity on the verge of conquering space. But he cannot swallow the arguments in favor of interplanetary saucers where a few assumptions serve to bridge gaping holes in the logic to arrive at a foregone and by no means compelling conclusion. In fact, he shows that the hypothesis of interplanetary origin is not, as has been claimed, the simplest explanation. On the contrary, it is unusually complicated once you start examining detail. One might go so far as to say that the saucers still would have to be explained even if a genuine spaceship from somewhere landed on our planet tomorrow.

Now what are the "flying saucers"?

Discounting a number of obvious pranks and hoaxes, about 80 per cent of the total number of observations can simply be classified as mistakes. The observers saw something they did not know or recognize, but that does not mean that the objects they saw are unknown. These mistakes run the whol gamut of devices Man put into the air; meteorological balloons, so-called "Skyhook" research ballons, radar targets, perhaps some missiles and jets and even a few airliners seen in unusual attitudes under unusual lighting conditions. Also a number of natural phenomena like meteors, especially the large kind called fireballs, and possibly a lenticular cloud or two. They are well known to every meteorologist but quite surprising to somebody who becomes aware of their existence for the first time.

What Mr. Menzel calls the "true" flying saucers (meaning those that are not mistakes) are explained by him as atmospheric phenomena, optical illusions, if you will. Even the "true" saucers are still of different types: there are reflections from layers of ice crystals floating in the air, there are mirages caused by "inversion layers" which are layers of warmer air sandwiched in between cold layers. It is possible that there are some such atmospheric effects which have not been named yet and require further study. As Mr. Menzel says: "As a scientist, I am not bothered if I cannot give a complete ironclad explanation for every phenomenon I meet. Unraveling the puzzles of science is my business—as well as my pleasure."

But the book does go a long way toward unraveling the twentieth-century mystery of the "saucers" which is not even a twentieth-century mystery. While a fine source of reference book, it is not precisely a piece of literature for it was obviously written in a hurry. It might also be noted that the Brocken is not a mountain in the Swiss Alps but the highest mountain of northern Germany, being the tallest peak of the Harz Mountains. The book is, in short, the first step in the direction of scientific evaluation. It is not yet the "definitive" book, that will perhaps be written ten years from now. Perhaps by Mr. Menzel himself.

Willy Ley, a well-known science writer, is the author of "Rockets, Missiles, and Space Travel" and "The Lungfish, the Dodo, and the Unicorn."

N.Y.N.Y.

World Telegram 27 May 1947 N.Y.N.Y.

By Robert C. Ruark

Man's long-time dream of rockets to the moon has crouched behind many an excuse, such as the determination of life, or lack of it, up there, such as the scientific itch to peep into the transoms of those spheres which whirl about us, in the interest of vaster knowledge.

Ruark.

It remained, however, for a German scientific writer, Willy Ley, to drop a finger on the most fundamental American urge to visit the moon. In his recently updated book, "Rockets and Space Travel," Herr Ley says that such a voyage is eminently possible.

An unmanned space ship could be followed swiftly by a manned ship, which would pay for the trip by bringing back lunar souvenirs for sale, says Ley, without cracking a smile.

In one short sentence, Mr. Ley has neatly summed us up. We are the folk of whom it was said: "The Germans fight for Hitler, the Japanese fight for the Emperor and the British fight for the King. But as far as I can make out, the Yanks are fighting for souvenirs."

There is a magpie complex about the American which is possibly unequalled by any other nationality. Our closets are cluttered with mementos, starting from the trip to Coney Island and ending with Tokyo and Berlin. We are passionate worshippers of the short-snorter bill, and our [illegible]aries sign documents with a dozen pens, in order that the spectators may carry away tangible proof of their presence.

* * *

Our attics are stacked with Japanese gold teeth, German pot helmets, pieces of machine guns, daggers, grass skirts, native art, samurai swords—forged painstakingly by Seebees—ash trays from the pistons of crashed airplanes, chunks of crystallized earth from the atom tests at Alamagordo, battle flags, old dance programs, college pennants, worthless coins, rags and bits and pieces of everything.

Our passion for writing names on washroom walls is a kindred thing: Kilroy couldn't bring it back to the States with him, so he wrote his name on it, and felt, thereby, that his visit was official.

The opening up of the moon as a new and fertile field for the souvenir presents so many possibilities that a few should be listed, by way of warning.

I foresee great landing parties spilling onto the moon's surfaces, equipped with picks and dynamite, there to hack and blast at the planet's face until it eventually will become more lopsided than it currently appears.

Our already overcrowded coat closets will bulge with samples of volcanic rock. Opportunists, hurriedly latching onto a good thing, will be selling specimens of granite from Vermont and quartz from Colorado as gen-u-wine slag from the moon, and making a nice thing out of it. Furtive little men will sidle up to you on the street, to offer, in an undertone, a real buy in hot rock from you know where, fresh off the last space ship, mister.

* * *

For the first time in the history of the American souvenir hunter, he will not have his pants taken in a trade by the natives, since the best authorities indicate that nobody is living away up yonder. The American will react badly to this, since he is accustomed to paying $20, a carton of cigarets, six cans of K-ration and an issue .45 automatic for a rusty Jap bayonet or a machine-made grass skirt.

Most important of all, the entire song-writing industry will be wrecked, as that battered synonym [illegible] croon and moon is betrayed pictorially as a frozen wasteland of weary grayness. As the returning GI ruined the reputation of the Pacific Isles as technicolored paradise, so the moon as a symbol of love bids fair to fall into disuse. And the Tin-Pan Alley boys are going to have one devil of the time making Mars or Saturn prove up as a satisfactory substitute.

In the best interests of radio crooners and harassed housewives, who are still stumbling over cured cannibal heads and entire tail assemblies from Focke-Wulfs, I hope we proceed cautiously on this moon business. Up until now the moon has been a very handy thing to have around at a safe distance, and I would hate to see a pleasant relationship spoiled.

W.T. 6 MAR 22 1947

Polytechnic Students Test Rocket Engine

The rocket club of Polytechnic Institute tests today the first student-built rocket engine in the East for one of the world's greatest rocket scientists.

Willy Ley, rocket specialist for the government and a founder in 1927 of the German Rocket Society, will speak before the Polytech group and will evaluate the undergraduate experiment.

A spokesman at the institute said the rocket club had been working since last summer to put the rocket engine in order. He said the rocket resembles "a stripped-down thermos bottle" and is about three feet high.

Mr. Ley will visit the Brooklyn school to address the 60-member chapter of the American Rocket Society. The only other student chapter is at Purdue University, where a group of graduate students also built a demonstration rocket model.

The Polytechnic rocket has not been publicly tested until today. An official at the school said the students have been hard at work readying it for Mr. Ley's inspection.

WILLY LEY.

Hospital to Fete Star Mother

In honor of Mother's Day, May 12, the Caledonian Hospital is sponsoring a contest to find the mother who has given birth to the largest number of children at the hospital, 132 Parkside Ave. Entries should be sent to Ruth Barrett, director of public relations, by May 9.

The winning mother will be feted at a tea in the hospital May 12.

SAVE $100! Diamond Ring

↑ World Telegram Sun, N.Y.N.Y.
1 May 1957

Kids Eager to OK Space Travel Idea

By FAYE EMERSON.

If your kids start telling you how to get out of this world, the responsibility rests with a TV advertiser who is putting space science across with his commercials.

The campaign is being conducted on an adult level of understanding with the aid of several leading authorities in space science, including Willy Ley, pioneer in rocket development and consultant on Walt Disney's Tomorrowland programs. He is also the author of four space science books being offered on ABC-TV's Mickey Mouse Club — and he expects them to have wide readership among the program's young viewers.

Faye Emerson

"Children," says Ley, "accept the premise of space travel more easily than the older generation, because they are used to the idea that they must learn things new to them.

Oldsters Reject New.

"Older people, on the other hand, may ask themselves, 'Do I have to know that?'—partly because they may be lazy and partly because they are selective. You can't read everything and so you read what interests you. I'm sure the financial pages of the newspapers are well written. But I have no reason, hence no desire, to read them."

Ley's "Man-made Satellite," "The Space Pilot," "Space Station," and a fourth volume, still untitled, will give the small fry the true dope on flight through space.

The books are written to be understood easily by both adults and children. They have an adult approach, but the vocabulary would not deter a 12-year-old.

Ley believes the commercials shown on the Mickey Mouse Club will result in an increased interest in space affairs among kids.

Daughters in Space.

"A percentage no doubt will be influenced," he says. "As a 10-year-old, I ran across a book I could understand, a book of lectures on physics and chemistry translated into German. I know that stirred my interest in science."

Ley's two daughters, Xena, 10, and Sandra, 13, already have a good background in space science, since it's a popular subject around their home.

Ley recalls his girls once invited a schoolmate to look through a book picturing various plants. Seeing a red planet, he said, "Look, here's Mars!"

Xena sneered at him and said, "You can't even tell the difference between Mars and Jupiter."

"You see," says Ley, "both Mars and Jupiter are red in color. But you can't expect people who are not interested in space science to know that."

* * *

Guy Lombardo, who owns and produces his syndicated Guy Lombardo Show TV series, is studying offers for its rights. If he sells the series, he would make a tidy capital gains profit.

A Mr. and Mrs. show on TV is in the works for Jackie Robinson, former Dodger baseball star and now a vice president with the Chock Full O' Nuts Corp. Should the show materialize, it would not affect Robinson's position with the coffee and restaurant firm whose president, William Black, has, in fact, been encouraging Robinson to expand his activities into broadcasting.

↑ World Telegram
Sun, N.Y. N.Y.
20 July 1957

↑ World Telegram Sun
30 Jan 1957

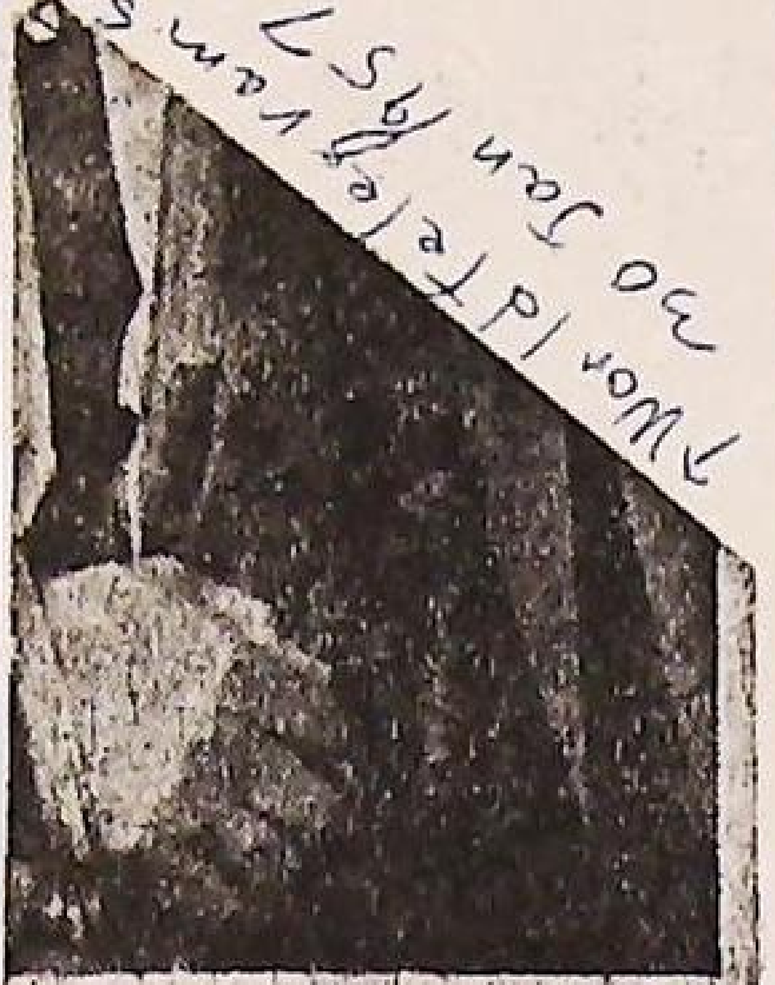
es as he boards plane for

Photo by Ford.

Wants Aluminum 'Moon' in Sky

By the United Press.

NEWARK, Jan. 30.—German rocket expert Willy Ley proposed last night that an aluminum foil balloon be shot into the stratosphere to help scientists investigate outer space.

Mr. Ley told the Newark Museum Assn. the balloon could stay aloft eight years, seven more than the 20-inch-long satellite scheduled to be fired into the heavens later

WTS JAN 30 1957

U.S. Space Station Seen in 10 Years

ASBURY PARK, N. J., May 27.—A top-flight scientist predicted last night that in 10 years the United States will have an instrument space station.

"We shall have an unmanned satellite before another decade has gone by," said Dr. Willy Ley, research engineer, author and lecturer on space and rocket control.

He spoke before an audience of about [illegible] scientists, engineers, and technicians at the 9th annual banquet of the Frequency Control Symposium, sponsored by the Army Signal Corps engineering laboratories at nearby Ft. Monmouth.

WTS MAY 27 1955

↑ World Telegram Sun
27 May 1955 N.Y.N.Y.

New Soviet Exploit Predicted by Dr. Ley

Associated Press.

LOS ANGELES, Sept. 15.—Rocket pioneer Dr. Willy Ley says the Russians may try to achieve one of these space accomplishments during Premier Khrushchev's visit:

- Orbitting a man.
- Putting up a satellite so high—22,300 miles—that it would make a 24-hour orbit, causing it to seem to hang in one part of the sky indefinitely.
- Sending up a cluster of balloons which could be inflated after orbit to a diameter so big they could be seen with the naked eye.

Dr. Ley, who helped develop Germany's World War II V weapons, told a news conference yesterday he has little doubt the Russians actually did hit the moon. He termed the hit "superb ballistic rocketry, with a little luck, too."

WTS SEP 15 1959

↑ World Telegram
Sun 15 Sep 1959

Florence Henderson's sudden zoom to stardom in Washington's "Oklahoma!" after only three weeks of yodeling in "Wish You Were" here, pleased nobody more than WT&S drama critic, William Hawkins. Months ago, opera's Christine Johnson phoned Bill and asked him to listen to an earful of protege talent. He judged "fine and dandy." This week a Johnson letter from Dixie informed him Florence Henderson was the unknown neophyte for whom he predicted success. . . . **The Jenny Hecht "Midsummer"** brawl is now so warped that Mark Stevens, star of the cast, is getting unjustly smeared in Hollywood via subtly whispered propaganda that too frequently inflames Filmdom and ruins careers, while scorched actors are totally unaware of what's smouldering behind their unemployment. . . . **Jo Stafford's latest lullaby to her infant Timothy is a joint trust fund soothingly set up by the songbird and spouse Paul Weston. . . . If V. Johnson hoped** to get away from it all deserting Flickerville for a night club tour, he is due for dismay. MGM brass and a roster of stars, celebs and movie trade reporters have booked ringside tables for his Las Vegas debut in The Sands next Thursday. . . . **Gals who can't wear** their hearts on their sleeves are now sporting them on belts like tomahawk trophies. Jewel designer Otto Grun's latest rage. . . . **The record hit, "I Want My Penny or the Gum,"** came along just in time for strike-empty subway vending machine victims to hum when they stop cussin'. Incidentally, a dummy named Chico-Chico does the singing on that waxing from ventriloquist Eddie Garson's knee. . . . **V-2 rocket inventor Willie Ley,** takes you on a space ship trip in Galaxy science fiction that's worse than a whirl in the dentist's chair.

WTS APR 11 1953

↑ World Telegram Sun
11 April 1953
N.Y.N.Y.

Space Travel Tied To 'Packaged' Air

Special to World-Telegram and Sun.

POINT CLEAR, Ala., Jan. 24.—The future of space exploration by astronauts will largely depend on man's ability to package an "Earth-type environment," predicted Dr. Willy Ley, today at a conference of the packaging division of Olin Mathieson Chemical Corp.

Dr. Ley, author of "The Exploration of Mars," with Dr. Wernher von Braun, said that space travel will become an everyday occurrence once the packaging problem of protecting the spaceman from an outside hostile environment was solved.

The space scientist predicted the problem would be solved within 10 to 20 years.

Dr. Ley stated that if plastics, rather than metals, are to house the future astronaut, these plastics would have to equal or surpass metals in strength and performance. They would also have to be less costly than metals and capable of being repaired in flight.

WTS JAN 24 1961

London Metal Market

(In pounds sterling per long ton.)

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Close.
Bid. Asked
Prev. Close
Spot

World Telegram Sun
24 Jan 1961

Strange Flash Baffles Space-Travel Wizards

By WILLIAM H. RUDY,
Staff Writer.

Zeroed in by a cloud of diabolic, parabolic curves, some 200 geophysicists, astronomers, Army and Navy aviation officers, engineers and intrepid birdmen took part today in the first symposium on space travel. The symposium will be an annual affair at the Hayden Planetarium.

On Columbus Day, fittingly enough, they heard not only of the progress made in the conquest of space but of the problems of the coming flights to the moon and Mars. They also gazed at a strange object which they could not identify.

Something Goes Wrong.

An incident heartening to the less adventurous occurred at the start of the speech by Dr. Fred L. Whipple, of the Harvard University astronomy department.

Mr. Whipple called for a slide to be flashed on the planetarium dome and a weird figure appeared.

"I don't know what that is," said Mr. Whipple. "I guess they got the wrong slide."

Takeoff Is Delayed.

There was no sense of urgency. The space ship was not taking off today, or tomorrow. Willie Ley, symposium master of ceremonies, in answer to a question said the interplanetary platform satellite might go up in as few as five years, but he didn't say anyone would be on it. There were other references to 100 and 150 years.

The fact that the Hayden Planetarium, that good, gray appendage to the ancient American Museum of Natural History, was the scene of such a symposium was the measure of how far the interspace industry has progressed in the last few years.

It may not happen in your lifetime, but it is a fact that reputable scientists today, Oct. 12, 1951, were discussing seriously the interplanetary rights of nations. How far up does national sovereignty extend? Should the moon and Mars be staked out for squatters like the Oklahoma Territory?

Mr. Ley, who sometimes gives the impression he is ready to take off tomorrow, was optimistic, but there was some talk of difficulties. The ticket booths are not being built.

Heinz Haber, a scientist who once built rockets for Hitler and who now is with the Department of Space Medicine, United States Air Force School of Aviation

(Continued on Page Two.)

World Telegram Sun
12 Oct 1951

OCT 12 1951

(Continued From Page One.)

Medicine, Randolph Field, Tex., brought out some of the difficulties.

Interspace scientists talk glibly about weightlessness, a sort of suspended animation, in which Earth residents will travel some day to Saturn.

Interplanetary Law.

Herr Haber said that weightlessness could have some disadvantages to the normal human. He might raise his hand to scratch his chin, he said in effect, and due to some odd reaction of the universe on his mechano-reactors, hit himself in the eye.

A good deal of the discussion was in the realm of never-never land. None more so than that of Oscar Schachter of the legal department of the United Nations.

Mr. Schachter, who will go down in history as the first barrister to move in on the problem of jurisdiction over Uranus, discussed interplanetary rights but didn't seem worried about their immediacy. He said the U.N. had terrestial problems to settle first.

World Telegram
Sun 12 Oct 1951

OCT 12 1951

Youthful Rocketeers Flexing Their Missiles

By GEORGE ALLEN,
World-Telegram Staff Writer.

Six Bronx teenagers who are constructing what has been the "top amateur rocket project in the nation" are exhibiting their hardware at the city's first symposium for amateur rocketeers today.

The rocket "Astro I" is designed to reach an altitude of 100 miles, carrying a payload of instruments to radio back information on performance and radiation. It is 17 feet long and has a maximum diameter of eight inches.

Capt. Bertrand Brinley, in charge of the First Army's program of technical assistance for teenage rocketeers, described "Astro I" as "a good example of the high caliber of work being done by teenage rocket scientists. Astro I is probably the top amateur rocket project in the country."

The boys are showing their slim beauty to Army and industrial experts at the symposium, including Willy Ley, rocket authorities. The symposium is being held at the Charles Evans Hughes HS, 351 W. 18th St., from 1 p.m. to 5 p.m. Scheduled speakers include Representative Francis E. Dorn of Brooklyn and Lt. Gen. B. M. Bryan, commanding general of the First Army.

The six have formed the Astronautical Research Society of America, with headquarters in the bedroom of Ira Skurnick, 1755 Anthony Ave., Bx. Ira is secretary of the society. He is 16 and a senior at the Bronx High School of Science.

Club president is John Schild, 18, a Manhattan college freshman. He is interested in space medicine and intends to take a pre-med course.

Cost of the 100-mile rocket is estimated by the boys at $95. Most of their equipment is found by scouring the surplus parts markets. The A. & L. Machine Shop in the Bronx machines the rocket's intricate parts without charge.

The project was started last September and the group has set late June as its target date for the countdown.

↑World Telegram Sun
3 May 1958 N.Y.N.Y.

Ley Sees Mars Trip in 25 Years

ALBUQUERQUE, N. M., Dec. 3 (AP).—Rocket expert Willy Ley predicts the first expedition to Mars will be on a man-driven rocket within the next twenty-five years.

Mr. Ley told an Albuquerque Museum audience last night that scientists would weigh the costs of "probes," unmanned missiles loaded only with scientific fact finding equipment, against what could be learned by such an experiment. On that basis, he said, the first expedition, although it would cost "far more" than a probe, would be made by man himself.

He based his prediction of "Mars or bust" in twenty-five years by allowing ten years for the transition from the space satellite to the man satellite; five more years to the moon, and ten more to Mars. He reiterated a previous statement that the first Earth satellites would be launched from Florida or a point along the Atlantic seaboard, and not from White Sands Proving Grounds in New Mexico.

Mr. Ley, a German missile authority and a founder of the American Rocket Society, said that any satellite would be set aloft from a multiple stage rocket and that the remnants of the two "carrier" rockets would be bound to return to Earth even if they exploded.

The mortar of the first rocket, according to Mr. Ley, would be apt to remain intact and weigh "at least a half ton." If fired eastward from White Sands, it would land "about in the area of New Orleans." That's why the satellite would have to be fire "on the edge of an ocean—aw from populated areas."

↑Herald Tribune
4 Dec 1955

The Chunnel, at Last

Tickets went on sale this week for the tunnel under the English Channel. Yes, the "chunnel" is finished, finally. You thought you would never see the day. Neither did science historian Willy Ley, who 40 years ago listed it among trail-blazing projects that were possible from an engineering standpoint, but probably doomed by politics or cost.

The first notion of a tunnel was broached to Napoleon Bonaparte in 1802 by a French engineer named Mathieu-Favier. Napoleon was intrigued, but it was not to be. Nor would later schemes succeed, for a bridge or for a dam with openings for ships. Not until the 1960's did the dream start moving toward reality.

Now, after a string of stops and starts, Eurotunnel plans to begin transporting cars by train May 7, between Folkestone on the English coast and Calais in France, 31 miles in 35 minutes. Fares are $330 to $460 per car round trip, depending on the season. That will be higher than the channel ferry most of the time, but the ferry is slower, and fares for both may change when the tunnel novelty wears off and travelers establish a preference. The Hertz people promise a discounted fare if you rent one of their cars — and they will switch you to a car with the appropriate steering wheel placement at the far end; left-hand for France, right-hand for England.

Later this year there will also be passenger trains between London and Paris or Brussels. London-Paris will be a three-hour run, or roughly the same as by air, counting the time it takes to and from airports at both ends — assuming fog hasn't shut down air service, which it often does.

There was no English Channel 15,000 years ago. Britain was a promontory of Western Europe. But ever since the sea sliced through, the British have seemed quite pleased to be an island. Reaching agreement to tunnel under the channel was itself a miracle; the digging was remarkable, too. And now, ever so routinely, there are tickets for sale.

13 Jan 1994 page A20
N.Y. Times col 1, 2 N.Y. N.Y.

William M. Clark

Why hunting is a fading tradition

From Solon to The Forks the road to Quebec runs parallel to the river or to the lake which from the river was formed. In only a few places is the sight of the river denied to the driver. Except in the land bulge that is Bingham, a strong archer could stop his car and send an arrow to the river bank. The road, Route 201 is a zone line of the central deer hunting district. This puzzles me.

I am pleased but I am puzzled. The river itself is the obvious division line. The practical effect of putting a small strip of land on the eastern side of the Kennebec in a special regulation zone with the western side of the river is the creation of confusion.

Some logrolling

In the last week of the deer season a doe is theoretically safe in the eastern and western sections of the central zone but not in the central section. What I always expect to see as I leave the road to drive to my new house on the river bank is a herd of doe deer playing happily in sanctuary while a gang of hunters patrols the legal shooting line.

For safety reasons this is all fine with me. I don't have to post my strip while I am working outside. A hunter who has to wait to be sure a deer has three inches of horns should at least be careful enough to spot the target ineligibility of a baldheaded man.

In general, a ban on shooting female deer in all hunting zones one year out of every five might be an excellent educational tool. A developed habit of looking more carefully might carry over to seasons when all deer could be shot. Ingrained caution beats enforced safety rules even if enforcement were possible.

But the part of the new zoning this year that pleases me most is the almost certain curtailment of fawn shooting. The stupidity of killing a deer which could add almost nothing to anyone's food supply has always horrified me, whereas hunting in general has not.

Hunting is a dying remnant of the food provision drive of primitive man. Anti-hunters should relax. There is absolutely no possibility of the hunting culture being artificially perpetuated. I'd give it 100 years at most. Burgeoning national and world populations will be more and more active in their resentment of living space given over to wild animals. This saddens me but it seems inevitable.

For the same reason, endangered species will be more and more endangered until they are gone, except from zoos. Even there, they may not be safe. Willy Ley, the rocket expert and zoologist, gave an example of preservation futility in his story of what were known in the western world as Father David's deer.

Ley was writing about the long list of animals which had become extinct in the past 100 years. Most had failed to adapt to changing conditions. The unusual deer had been protected for centuries in an imperial park near Peking. Father David bribed the guards and smuggled out antlers and skin. The interest of British scientists brought about a gift of live specimens. There is now a small herd in a British park.

But such combinations of accident and chicanery are unusual and the real lesson is in the fate of the original herd. All the deer were eaten when a famine hit overpopulated China in 1895 and hungry people stormed the park. We can hope that such hunger pressures will not eventually doom even animals which are not now endangered, but we certainly cannot be sure of that.

I suppose this is one reason why many of us still rejoice in the presence of beef, and that this country is still large enough to devote space to raising it. One blessing of modernity is that we do not have to eat bean sprouts or alfalfa shoots or paste made from seaweed.

Only well-fed people worry about endangered animals. I love living where wild animals roam freely but I do not believe that such a world will exist for the grandsons of my grandson's grandsons. I can only hope that there will be compensations. I am sure there will be.

10 NOV 1984 p4 Kennebec Journal
Augusta, Maine

28 August 1955
Section 7 - Books
page 6, col 4
New York Times

e Papas Take Over

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ɩ FREUCHEN

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for heat. This technique has the advantage of enabling him to move about while engaged in incubation. In addition, while hatching the males huddle together in crowds for further protection against the cold Antarctic gales.

Many feet of film were used in recording the behavior of the penguins and their audible, if limited, language was put down on tape for future study Even the temperatures of the birds were taken. In spite of these observations, however, the life of the penguin while away from land is still shrouded in mystery Other animals native to the region were also studied and much new information was obtained about the leopard seals who attack the penguins in the water and are largely responsible for their scarcity.

This is a good book from which to learn not only about the animals of the Antarctic but [illegible] modern scientific [illegible]

Silence

THERE are times in Adelie Land when the wind drops altogether, and then the silence is absolute and shattering. * * * At such times you can see Emperor penguins a mile and a half away—and you can plainly hear their cooing and croaking.—*"Seven Men Among the Penguins."*

Naturally It's Strange

SALAMANDERS AND OTHER WONDERS: Still More Adventures of a Romantic Naturalist. By Willy Ley. Illustrated. 293 pp. New York: The Viking Press. $3.95.

By JOSEPH WOOD KRUTCH

FASCINATED by whatever is far away, long ago, or for any other reason obscure and dubious, Willy Ley loves to trace legends, mysteries and persistent mistakes to their source and then down through the ages to our own time. Sometimes he ends up in a blind alley, sometimes with a solidly established fact, sometimes with an interesting guess and sometimes with an intriguing "Who knows?" Because he leaves no stone unturned and is endlessly patient in tracing clues in out-of-the-way places, he rarely fails to turn up with something either illuminating or at least odd.

Readers of his "The Lungfish, the Dodo, and the Unicorn" and "Dragons in Amber" will know what to expect. The first and perhaps most important study begins with the classic story of the Mexican salamander that upset the scientific world by reproducing while still in the larval stage. Mr. Ley then goes on to link that with the somewhat less familiar tale of the Austrian biologist Kammerer, who either hoaxed himself or was hoaxed into believing that he had demonstrated the inheritance of acquired characteristics in salamanders at least and who committed suicide when the fraud was exposed.

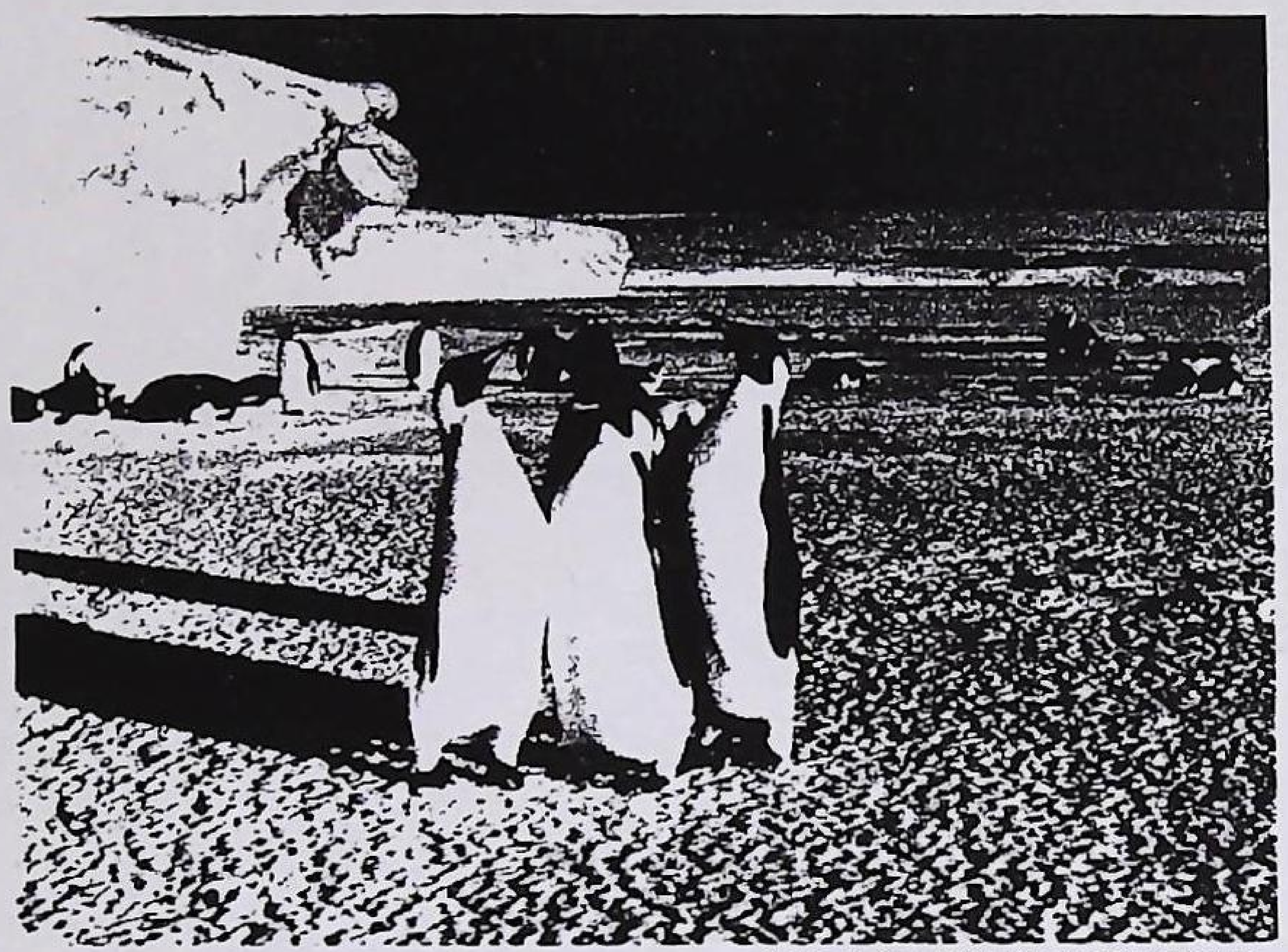
This in turn leads to the story (unknown to the present reader) of the official Russian movie which represented Kammerer as the victim of a capitalist plot and thus prepared the way for Lysenko, who, until very recently, was able to command all Soviet scientists to believe modern genetics a fraud and the gene nonexistent.

OTHER large subjects include studies of tool-using among animals and of early solutions to the problem of flight. But some will perhaps find even more interesting and curious the sallies down obscurer alleys What truth was behind the legend of the death-dealing Upas tree in which the great Erasmus Darwin implicitly believed or behind the even more horrendous legend of the man-eating tree of Madagascar? Did Konrad Gesner, the generally reliable father of modern natural history, describe as common a bird which did not exist? What is really responsible for the snow tracks in the Himalayas which natives are sure are left by the *metohkangmi* or Abominable Snowmen whom, as a matter of fact, they have often seen?

To most of these questions the answers are either fairly well establishable or at least not beyond conjecture The legend of the Upas tree was exaggerated from the truth about a real tree whose poison was used to anoint weapons The Madagascar man-eater seems to have been made up out of the whole cloth, and its probable first appearance has been traced. Gesner described an African ibis that gave up the habit of migrating into Europe after his time.

The Abominable Snowmen? Now that is a different matter. Several impeccable explorers have seen the footprints They are not those of a bear, an ape or of a man of any known race. Perhaps Abominable Snowmen, hairy and beastlike, really do exist. Mr. Ley does not say that he believes that they do. But who can blame him if he seems to have his hopes?

Mr Krutch's books include "Desert Year" and "The Twelve Seasons."



Photograph from "Seven Men Among the Penguins."

Emperor penguins in Adelie Land, French Antarctica, 1952.

Creatures With a Haunting Cry

THE PEOPLE OF THE SEA By David Thomson 214 pp New York The John Day Company $3.50

By GEOFFREY WAGNER

SO many excellent books about the sea have appeared recently it is an unexpected pleasure to welcome an addition to the literature, this time on the most human of oceanic denizens This charming account of seals, and their mythic resemblance to man, is told in the form of autobiographical reminiscences on the Atlantic seaboard of Scotland and Ireland by a writer with a clear eye and sensitive ear who was raised on the Moray Firth, a fertile repository of folk wisdom

The last Scottish census still listed several thousand Scots speaking only Gaelic (many more both Gaelic and English), and it is the life of these crofters and fisherfolk of the outer islands, for whom even today a pressure lamp is a luxury, that is most affectionately sketched in here It is a hard life, but richly imaginative and rooted in tradition and Mr Thomson sifts the folklore of this Celtic fringe for a small anthology of fascinating anecdotes about seals that should entertain all age groups

These humanized seal stories, some of them delightfully "tall," provide a unifying link for what is to some extent also a travelbook The author shows himself fully aware of the vanishing life of the Scottish Highlands (personified in his pages by a lovely lass), with their famous, or infamous, Black Houses and cottages, home of a typical Scottish ballad-form. Even the Doric (that rustic English dialect) admirably as Mr Thomson transcribes it in dialogue, cannot adequately convey shades of reality typical of the Gaelic Highlands, that world where the eccentric is the norm

When the author moves to the better-known Irish coast in search of seals and their slaughterers, the reader feels more at home. Throughout, the seal emerges as a lovable yet oddly lonely creature, with its "old man's head," its eyes "able to weep," and its cry "like the sobbing of a girl in a dark house of many rooms." A final chapter of musical illustrations, in fact, transcribes these haunting cries which have themselves led to so much legendry and enchanted superstition. In the Orkneys seals were at one time believed to be the souls of drowned men. Mercifully there are no performing seals, either in the book or on it.

Mr Wagner, a novelist and world traveler, writes frequently about the British Isles.

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Hunting Africa's Unknown

By WILLY LEY

Long an expert on making science an open book to the layman, Willy Ley was once a colleague of German Prof. Hermann Oberth, reported inventor of the robot bomb. Ley left Germany in 1935 as a refugee from Hitler and is now living and writing in the United States. Among his books are "The Lungfish and the Unicorn," "Bombs and Bombing," "The Days of Creation" and "Rockets."

A CENTURY ago a noted French scientist, Baron de Cuvier, stood before the French Academy and solemnly told its members that new zoological discoveries could be made only by delving into our planet's past. The earth's crust doubtless harbored the fossil remains of countless extinct animals still unknown to science, he said. But as for living animals, he added dogmatically, there were no further important living animals left to discover.

The amazing thing is that he was right for some three-score years and more. Fossil hunters won fame by unearthing the most incredible collections of extinct saurians and mammals. But no hunter of living animals returned from anywhere with astonishing news. New butterflies and lizards from South America—yes. Some new rodents and small marsupials from Australia—yes. A lot of small and sometimes very interesting fishes from the bottom of the ocean and from obscure inland rivers, especially in the tropics—yes. But nothing that would spill over from professional literature into the sea of daily newsprint and make an audible splash. Zoologists felt inclined to agree with Cuvier wholeheartedly.

The single real important discovery made during those decades from about 1820 to about 1890, the finding of the Australian lungfish, did not get the attention it deserved until near the end of the century. And it was just at that time that new facts began to show how careless Cuvier had been.

The new century ushered in a series of very remarkable discoveries of new animals—and the sceptical attitude became more and more conciliatory as time went on and new discoveries kept coming in.

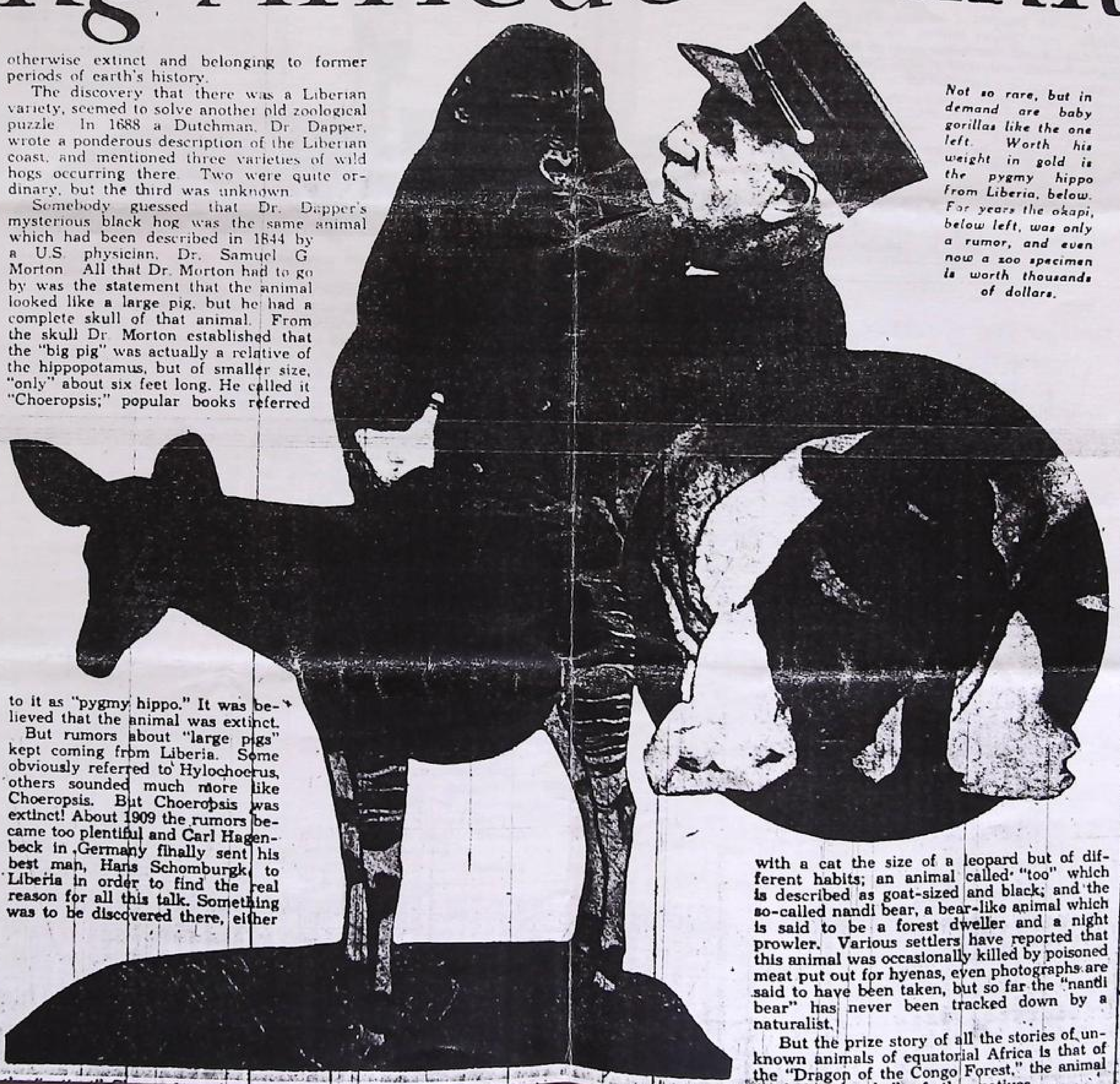
As regards the existence of undiscovered animals even now, well over a dozen decades after Cuvier, zoologists are inclined to be open-minded. They know that about 10 per cent of the land surface of the earth—not even including Antarctica—are still virtually or completely unexplored. A lot can be in hiding in that 10 per cent. They know that the oceans still harbor not only one but many mysteries—the accidental discovery (in 1938)

otherwise extinct and belonging to former periods of earth's history.

The discovery that there was a Liberian variety, seemed to solve another old zoological puzzle. In 1688 a Dutchman, Dr. Dapper, wrote a ponderous description of the Liberian coast, and mentioned three varieties of wild hogs occurring there. Two were quite ordinary, but the third was unknown.

Somebody guessed that Dr. Dapper's mysterious black hog was the same animal which had been described in 1844 by a U.S. physician, Dr. Samuel G. Morton. All that Dr. Morton had to go by was the statement that the animal looked like a large pig, but he had a complete skull of that animal. From the skull Dr. Morton established that the "big pig" was actually a relative of the hippopotamus, but of smaller size, "only" about six feet long. He called it "Choeropsis;" popular books referred to it as "pygmy hippo." It was believed that the animal was extinct.

But rumors about "large pigs" kept coming from Liberia. Some obviously referred to Hylochoerus, others sounded much more like Choeropsis. But Choeropsis was extinct! About 1909 the rumors became too plentiful and Carl Hagenbeck in Germany finally sent his best man, Hans Schomburgk, to Liberia in order to find the real reason for all this talk. Something was to be discovered there, either



Not so rare, but in demand are baby gorillas like the one left. Worth his weight in gold is the pygmy hippo from Liberia, below. For years the okapi, below left, was only a rumor, and even now a zoo specimen is worth thousands of dollars.

with a cat the size of a leopard but of different habits; an animal called "too" which is described as goat-sized and black; and the so-called nandi bear, a bear-like animal which is said to be a forest dweller and a night prowler. Various settlers have reported that this animal was occasionally killed by poisoned meat put out for hyenas, even photographs are said to have been taken, but so far the "nandi bear" has never been tracked down by a naturalist.

But the prize story of all the stories of unknown animals of equatorial Africa is that of the "Dragon of the Congo Forest," the animal "mokele-mbembe" of the natives.

first glance than any of the other reports, it is actually one of the best documented. These other undiscovered animals are after all strange only because they are not yet known to science.

But the animal "mokele-mbembe" is described as a living dinosaur!

It is probably not a dinosaur in the zoological sense, but it is, in all probability, a large reptile. Schomburgk carried one of the tales about such an animal. When he came to Lake Bangweolo outside the limits of the Rainy Forest proper he was surprised that hippopotami were lacking, although the lake was just such a body of water which would harbor hippopotami. The natives had an explanation. The lake did not have hippopotami because it was inhabited by an animal which although somewhat smaller in size, killed them.

There was also an old, old picture which could be taken to contribute evidence. That picture came from the Ishtar Gate of Babylon, erected, according to archaeological findings, by King Nebuchadnezzar.

To express the splendor of the great king, colored bas-reliefs of animals were imbedded into the walls, a long row of majestically walking lions along the procession way, and alternating rows of "rimi and sirrushu" on the gate itself. The "rimi" are wild oxen. The "sirrushu" are the "dragons" of Babylon.

The question now arises whether the sirrush is a mythical monster or whether the Babylonians pictured an animal with which they were familiar and we are not. Off-hand it would seem strange that they should place a mythical monster between two existing animals—the lions and "rimi."

I think that, purely from the point of view of logic, the chances are even that the sirrush is the picture of an actually existing animal too. This assumption does not imply that this animal was frequent or even that it occurred near Babylon. On the contrary, it may have been given its place of honor just because it was a "strange beast from far lands."

In build the sirrush is strongly reminiscent of certain extinct dinosaurs, with a long neck, with forefeet resembling the paws of a mammal and hind feet looking like those of a bird. It has a forked tongue like snakes and monitor lizards and apparently some flaps of skinny membrane at the head, like certain chameleons and other living reptiles. It is described as having a long and muscular tail like an alligator. In size it is said to be intermediate between hippopotamus and elephant.

And there can be little doubt that Central Africa still harbors a large long-necked animal of some kind which shows a definite preference for an aquatic environment and which is, in all probability, a large reptile.

re inland rivers, especially in the tropics yes. But nothing that would spill over from professional literature into the sea of daily newsprint and make an audible splash. Zoologists felt inclined to agree with Cuvier wholeheartedly.

The single real important discovery made during those decades from about 1820 to about 1890, the finding of the Australian lungfish, did not get the attention it deserved until near the end of the century. And it was just at that time that new facts began to show how careless Cuvier had been.

The new century ushered in a series of very remarkable discoveries of new animals—and the sceptical attitude became more and more conciliatory as time went on and new discoveries kept coming in.

As regards the existence of undiscovered animals even now, well over a dozen decades after Cuvier, zoologists are inclined to be open-minded. They know that about 10 per cent. of the land surface of the earth—not even including Antarctica—are still virtually or completely unexplored. A lot can be in hiding in that 10 per cent. They know that the oceans still harbor not only one but many mysteries—the accidental discovery (in 1938) of a fish believed to be extinct for more than 65,000,000 years taught a lesson.

Zoologists specializing in the animal trade are even more lenient. They point at certain spots on the globe and voice suspicions. Sumatra, for example, is known to harbor a "new" variety of rhinoceros, in addition to the well known type. Specimens have even been shot, but never under circumstances which permitted a complete scientific investigation. N[illegible] said to be the home of a [illegible] marsupial, and Burma is believed to harbor a variety of deer, black in color and reported to have a strange call curiously resembling the barking of a dog. Even Europe may still boast an undiscovered animal in the Swiss and Austrian Alps, described as a large and very rare lizard.

But the "promised land" for still undiscovered animals is Africa. More precisely, it is the equatorial belt of Africa, stretching roughly 2,000 miles across the continent and extending for about 1,000 miles on either side of the equator. It is the Rainy Forest in that equatorial belt on which suspicion has been focussing for the last 40 years.

It is this territory which still harbors a number of "mystery animals," dimly known to science through incomplete (and not invariably trustworthy) reports. It is this section which has produced four major zoological discoveries within three decades.

Donkey or Zebra?

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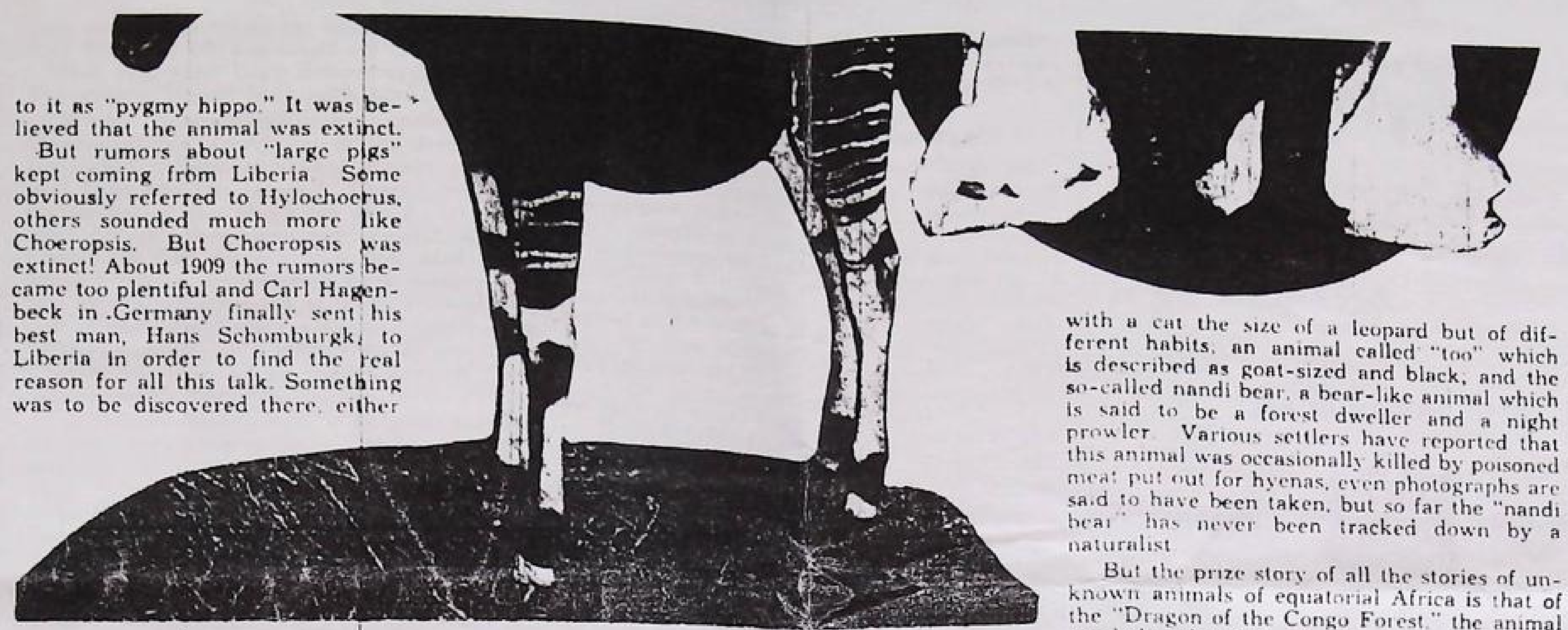
To experts this statement was rather mysterious. No donkey was known from that section. It might be one of the zebras, but zebras avoid forests and those pygmies lived where the forest was densest and most inhospitable.

Sir Harry Johnston decided that it was either a variety of zebra which did not mind forest environment or else an unknown



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Every educated Liberian, colored or white, was fully convinced that Choeropsis was extinct. And the natives of the interior believed Schomburgk crazy, not because he was looking for this animal which they knew well, but because he wanted it alive. One could, with luck and sharp weapons, kill a "nigbve" (as they called it) but one could not catch it alive.

But one year later Schomburgk brought live pygmy hippos back with him.

While Schomburgk was going after Choeropsis, an expedition of the New York Zoological society, consisting mainly of Herbert Lang and Dr. James P. Chapin, was trying to get a live okapi for the Bronx Park zoo. Though they were unsuccessful, all unknowingly they discovered a new bird. They brough native headdresses back with them, and careful examination at home showed that one of the headdresses contained feathers of unknown origin. For more than 20 years, Dr. Chapin was haunted by the mystery of these unidentifiable feathers.

A chance discovery in a Belgian museum in 1936, consisting of an examination of two wrongly labelled stuffed birds, furnished a clue. These unidentifiable feathers had come from an African peacock (later called "Afropavo congensis"), a so far completely unknown bird. All that remained to be done was to verify its actual habitat.

Dr. Chapin did this by flying to Stanleyville. Afropavo turned out to be well known to native hunters. It has a fairly restricted habitat, but is not excessively rare where it occurs. The habitat is, one is tempted to write "of course," the eastern edge of the Rainy Forest, from the Ituri Forest down to the Sankuru river.

Even if there were no rumors left it would be an obvious question to ask whether the Rainy Forest might not harbor more unknown creatures. The rumors say that it does, and a good number of them look fairly substantial. Hans Schomburgk gathered quite a number of them when he was looking for Choeropsis and told me about them one night in Berlin, about a dozen years ago.

"Seven Horns and One Eye"

WHILE asking questions about "large pigs," with the purpose of locating the haunts of the pygmy hippo, he fell in again and again with reports of a small mountain rhinoceros. Now Schomburgk knew about Meinertzhagen's forest hog and that it had been termed "a small rhinoceros." He also knew that a native, trying to be polite, will unhesitatingly affirm that there is, in Schomburgk's words, "a large animal with seven horns but only one eye and blue fur" if the interrogator shows inclinations to be told about such an animal.

So Schomburgk said oh yes, and proceeded to describe the forest hog. To his great surprise the native hunters contradicted vigorously and told him in what respects the "mountain rhinoceros" differed from the black pig. It was evident that the native hunters knew what they were talking about. Schomburgk came to the conclusion that the mountains of eastern Liberia actually harbor a small-size form of the rhinoceros. But so far the small "mountain rhino" has not been discovered.

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The range of the okapi is in the northeastern corner of the Rainy Forest. This region is called the Ituri Forest—and the Ituri Forest, the natives said, harbored an enormous wild hog, black in color and as big as a small rhinoceros.

The ferocious forest hog of the natives remained a riddle for a full quarter of a century. Then it found its solution, and the solution was simple: the animal existed. Capt. R. Meinertzhagen of the British East African Rifles discovered it in 1904, securing an imperfect skin that had come from the forest of Mount Kenya. He also obtained a skull from the forest bordering Victoria Lake. The animal is now known scientifically as "Hylochoerus." While not actually as large as a small rhinoceros it is by far the largest of the wild pigs of Africa and its fur is actually jet-black. Like the okapi it represents a form

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Champion SPARK PLUGS

Your choice of spark plugs is made easy if you follow the judgment and experience of men who know spark plugs best—men to whom spark plugs are a vital business factor.

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FOLLOW THE EXPERTS . . .
DEMAND DEPENDABLE CHAMPIONS FOR YOUR CAR
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19 Apr 1941 The New Yorker
page 89 & 90
Books section -

rather old-fashioned orator, working in a heavy parliamentary style that seems a trifle absurd to us. But I think few can read his address to the Italian people, or to the French people, or the terrific climax ("We shall fight in the fields and in the streets," and so on) of the speech on Dunkerque without realizing that in Churchill England has produced one of its greatest masters of rhetoric and exhortation.

EMILY HAHN, with whose stories of China *New Yorker* readers are familiar, has done a tri-biography, "The Soong Sisters." It should satisfy completely any curiosity you may have about the most renowned trinity of females since the Parcae. Miss Hahn is an American who has lived in China for some years. She is thus well equipped to write about the Soong girls, because they too are a product of two cultures. The father of the Soongs spent his youth and young manhood here (his American name was Charlie Jones Soong), was baptized into the Methodist Episcopal Church, and to the end of his days bore the stamp of his American training. The girls—Eling, Chingling, and Mayling—went to the Wesleyan College for Women in Georgia and are even today, in much of their opinion, decisively American. Miss Hahn is a sympathetic interpreter of this mingling (sounds like a fourth sister) of traditions.

The outlines of their story, which has almost a fairy-tale quality, are well known. Eling, the eldest, married a Y.M.C.A. worker named Kung Hsiang-hsi, who turned out to be modern China's outstanding financial and banking expert. Chingling married well too—she became Mme. Sun Yat-sen. Mayling, of course, now the most famous of the sisters, made a farsighted choice when she married Chiang Kai-shek. Their careers, obviously, are closely interwoven with the entire history of modern China. Politically, they have often been deeply divided, but the bombs of Japan have at last reunited them. They stand today as a picturesque symbol of whatever unity China has so far painfully attained.

Miss Hahn has not solved the probably insoluble problem of writing a book about the Soongs. When she concentrates on their personalities (as she ters describing their youth), she has to neglect the complex history of China. When she retells that history, she has to fit the Soong sisters in somewhat artificially, for, after all, the events are much greater than the girls themselves. Also, Miss Hahn is handicapped—this again is hardly her fault—by the fact that so much of the story—the Sian kidnapping, for example—has been recounted in other books by equally competent journalists. On the whole, however, her readable book fills its niche most acceptably.

THERE is something delightful about the way H. G. Wells, now seventy-five, keeps on stubbornly protecting his investment in the future, of which he has long enjoyed a sort of monopoly of prophecy. You would think the present crisis might dampen even the hottest Utopian ardor, but here is Mr. Wells, the English sky above him dark with destruction, writing an extremely cheerful, even gay book about the salvation of his pet—mankind.

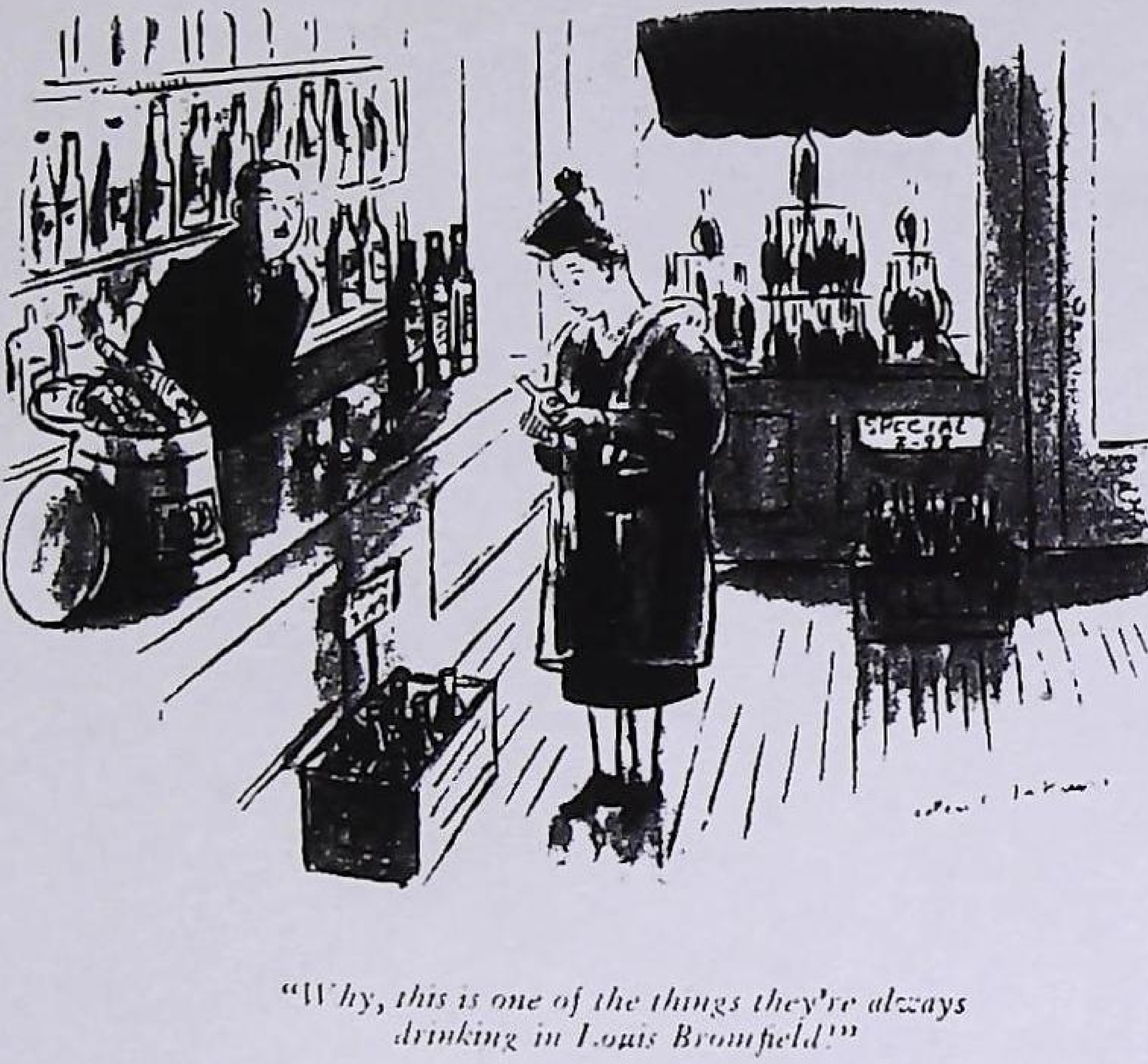
"All Aboard for Ararat" is an account of a series of conversations between Noah Lammock (Mr. Wells, I believe) and God. The problem is to save mankind through a new flood and a new ark. God, as you may imagine, is less certain about how this should be done than is Noah-Wells, but between the two of them the work of salvation is well started, and so are the bases of several diverting and satirical conversations in Mr. Wells' familiar vein. How can Hitler ever expect to destroy a people capable of producing a man who will write thus in days like these?

CARE to get the latest lowdown on the sea serpent, which is probably real and not a feature editor's fancy? Would you like to learn about the unicorn? Do you know that the Cyclopes were elephants? What is a Jenny Hanniver? How are you on tatzelwurms, horned snakes, [illegible], quaggas, and wisents? Has anyone ever told you the whole story of the platypus?

I refer the curious to Willy Ley's "The Lungfish and the Unicorn," an odd book subtitled "An Excursion into Romantic Zoology." In it you will learn everything about mythical animals (which Dr. Ley demonstrates to have been not so mythical after all) like the dragon and the basilisk, about extinct beasts such as the urus and the dodo, and about certain animals which, though they should have been extinct long ago, are still doing business and rejoicing the hearts of zoologists. What is known as Lore, and very diverting Lore at that.

By the way, the last real penguin was killed in 1844. What you think are penguins aren't penguins at all but some other birds by the same name. —

Clifton Fadiman



"Why, this is one of the things they're always drinking in Louis Bromfield!"

Gunnar Gunnarsson

—he must comprise in himself a considerable part of Iceland's literati—writes like few literary chaps you're apt to think of, unless it be the early Knut Hamsun. His tales have a flavor, exceedingly simple and devout, of the medieval *conte*," says CLIFTON FADIMAN in *The New Yorker*

THE GOOD SHEPHERD

"When Loti left the world, he left a pearl to literature, the story of an Iceland fisherman. We have another pearl now, this story of an Iceland shepherd. Its beauty is as great, and its value is higher."—*N. Y. Herald Tribune*. Illus.

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Hartford Courant, Hartford, Conn 11 August 1968 page 14, col 3, 4
Hartford Courant Magazine Section

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Willy Ley, author of "Dawn of Zoology," published by Prentice-Hall.

In the Beginning

DAWN OF ZOOLOGY—By Willy Ley: Prentice-Hall; $7.25.

Reviewed by

GEORGE W. EARLEY

To most people, Willy Ley is best known as the Dean of Rocket Historians; in actual point of fact, his interests and his writings are far more diverse than that. Originally trained as a paleontologist in his native Germany, Ley, who fled his homeland in 1935 as Hitler rose to power, has written extensively in the zoological field.

His most recent work in that field is a distinguished addition to the Prentice-Hall series in nature and natural history. Witty, entertaining and informative, "Dawn of Zoology" traces the growth of the field from the days of the Assyrian king Tiglath-Pileser I (circa 1100 B.C.) to the travels of Charles Darwin and the subsequent publication of his "The Origin of Species." (The resulting furor over evolution, of which echoes still exist in parts of the United States even today, is not detailed here.)

Ley, in outlining the growth of zoology from the beginnings when man first recognized differences between various animals and fishes, has, chapter by chapter, examined man in his various guises over the years—Man the Hunter, Thinker, Collector, Allegorizer, Cleric, Reformer, Systematizer, Digger, and, finally, Man the Explainer.

In slightly more than 250 pages, Ley has packed a fantastic amount of information, all presented in a straightforward and thoroughly entertaining manner. He has supplemented his text with dozens of illustrations from contemporary sources--portraits of proto-zoologists through the years, as well as drawings of a wide variety of animals, both real and fanciful. No one possessed of even a modicum of scientific curiosity should fail to read "Dawn of Zoology."

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Magazine Rack

By Orval Hopkins

BIG ITEMS in **Life** this week are Henry R. Luce's presentation of what he thinks is the relationship between America and Asia, in which he says, "The only Chinese force which can serve as a spearhead to crack (the shell of Communist tyranny) is Chiang Kai-shek and the Nationalists;" Carl Sandburg's "I Went Back to Galesburg," with some fine old pictures; an offering called "Great Pages in Great Bibles," with a number of color prints; and some views of President Eisenhower shooting golf on the White House lawn.

* * *

TOUR DE FORCE in this week's **Collier's** is "Man's Survival in Space," edited by Cornelius Ryan. Among Ryan's contributors are Dr. Wernher von Braun, the missiles man; Dr. James A. Van Allen, the physicist; Dr. Hermann J. Muller, the physiologist, and Willy Ley, the rocket expert. For that trip into space, as Ryan points out, "we can build the rocket ships, but success depends on the most complicated mechanism of all: the human body." The Navy's new space suit, these people say, will make it possible for man to climb into space. This is the first item of a three-part series on the selection and training of "the crews who will operate tomorrow's rocket ships." Quite a presentation.

Collier's
WORLD'S FIRST SPACE SUIT

Also, Tom Meany's "Baseball Preview." Washington seventh. (Now 'ook here, Meany.)

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THAT BARGAIN we've been working on with Spain and Dictator F. Franco is a real wonderful deal, according to the **Saturday Evening Post's** Ernest O. Hauser, who firmly proclaims "our Spanish venture" to be a "boldly conceived, morally sound and hence peculiarly American enterprise." Also, Gerald W. Johnson's "How the Girls Saved Mount Vernon."

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CURTIS also is taking a fling at the space story. The March **Holiday** carries an article by Arthur C. Clarke called, "A Journey to Mars." Holiday's "cities" this month are Mexico, by J. Frank Dobie, and Dallas, by James Street. Clifton Fadiman, in his "Party of One," is talking about Sinclair Lewis.

* * *

CHILDREN are getting "too much love and kisses, too much love and security," in the opinion of Dr. Joseph Palma, expressed in **Life and Health** magazine. Palma says it's time parents got back to the old-fashioned stick "and a bit of reproof and rebuke."

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GEORGE MAY writes about "Bawdy Budapest" in the March **Real** "the exciting magazine for men." May says that behind the Iron Curtain "the red hot night clubs are nests of intrigue

The Washington Merry-Go-Round

Trumans Enjoying P

By Drew Pearson

HARRY AND BESS TRUMAN, of Independence, Mo., seem to be having a wonderful time. Mr. Truman, who dropped the world's heaviest load just a month ago, is now enjoying the fun of telling his neighbors just what he thinks—a freedom denied him for seven years. Here's what he's saying: "The Missus and I are going to Hawaii next month. It'll be our first vacation—without worries—in 30 years. We won't come home until May. I want a vacation, but Bess *deserves* one . . . Did I tell you about those crowds that greeted us at the railroad stations on the way home? Time after time thousands of people turned out. You'd think I was the President—or something. . . . That welcome-home dinner here in Independence—room for less than a thousand but they could have sold more than 10,000 tickets. . . . Bess tells me that the 'welcome home' ceremonies were more than worth the 30 years of hell she's gone through with me in politics. . . . It's hard to believe, but I've received more than 70,000 letters here in Independence in the last two weeks. Almost all were favorable. I even got some kind editorials. Some editors ate crow and left the feathers on. . . . That wonderful homecoming here in Independence was about the nicest [illegible] that ever happened to the Missus and me."

Diplomatic Conversation

THE POLISH AMBASSADOR and a member of the Romanian Embassy staff, both representing Communist countries, held a significant meeting with a group of European journalists in Washington the other day.

The journalists were from non-Communist Western Europe, and the two Communist envoys obviously were trying to find out something about the future policies of the Eisenhower Administration. In so doing, they may have given away the possible policies of the Kremlin.

Such meetings between the press and the diplomatic corps, incidentally, are not unusual.

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he table, which was considered altar to God and was approached with reverence and thanksgiving, has become a cafeteria counter to which members of the family dash to fulfill their physical wants, without as much as a thought of returning a blessing to God for His beneficence.

"It is difficult to conceive that in such an environment children can grow up with any moral enthusiasm or spiritual yearning."

CRAFTS COURSE OFFERED

Women Invited to Learn How to Teach Hospital Patients

A course to enable women to teach crafts to hospital patients is being offered by the United Hospital Fund of New York, according to an announcement made by Mrs. L. V. Steck, chairman of its occupational therapy training committee.

Although there is no fee, materials used to learn woodwork, leatherwork, weaving, sewing, needlework, knotting and braiding will cost each registrant $15.

The twenty-seven-session course will begin Oct. 6 and will be held Mondays, Wednesdays and Fridays, 1:30 to 4:30 P. M., over a nine-week period. Registration is
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TRIP TO THE MOON HELD 10 YEARS OFF

Rocket ships and interplanetary travel were discussed for an hour yesterday before 700 high school students, with the questions including: "When will man travel to the moon?" and "How soon could a space ship be built?"

Sharing the rostrum at the second weekly television program of the New York Times Youth Forum with Dorothy Gordon, moderator, and six pupils from secondary schools in the New York metropolitan area, Willy Ley, author and romantic naturalist, said a trip to the moon seemed improbable within the next ten years. The program was televised over Station WABD.

As for the space ship that might fly to the moon, the 46-year-old German-born faculty member of Fairleigh Dickinson College in Rutherford, N. J., envisioned a practicable one completed six or eight years after construction was begun.

The cost of developing a space ship program, he told his attentive audience at the Adelphi Television Theatre at Fifty-fourth Street and Seventh Avenue, would average $400,000,000 a year for a decade.

Mr. Ley said also he did not believe so-called flying saucers were space ships. "If they were, our whole thinking about them would have to be revised," he declared. He said he doubted the saucers originated from another planet because of the absence of noise, as reported by observers. He said it was impossible to think of a ship traveling at speed faster than sound without making noise.

The guest students on the panel were Stephen Aaron, 17 years old, of the Bronx High School of Science; Nancy Troll, 17, of Rockaway High School, Rockaway, N. J.; Hulan E. Jack Jr., 17, of Rice High School; Anna Mascolo, 16, of Julia Richman High School; Pierre Sprey, 14, of Forest Hills High School, Queens, and Toby Citrin, 15, of Prospect Heights High School, Brooklyn.

Next week's topic will be: "Will the election affect our foreign policy in Asia?" Robert Aura Smith, specialist on the Far East, will be the adult guest.

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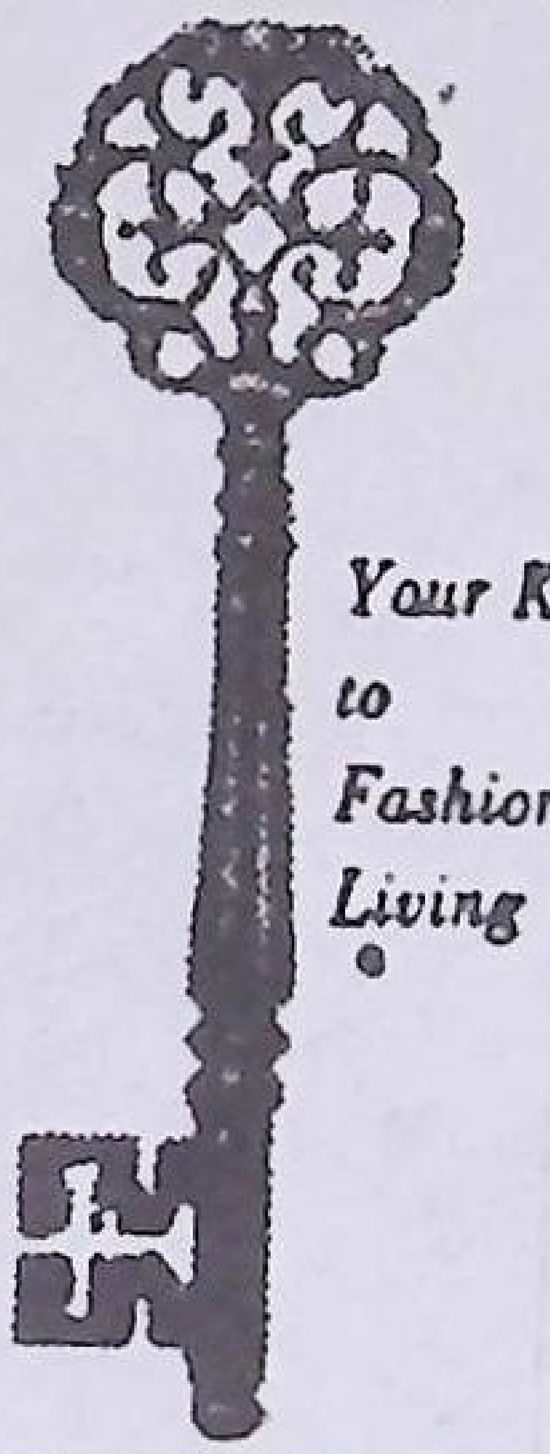
Ronald Elliott Cape of Montreal, Canada, received the Albert G. Milbank scholarship prize as the undergraduate who had achieved the highest academic average during his first three years of college.

The award carries an annual stipend of $500.



LAST WEEK TO SEE

Your Key to Fashions for Living

The exciting
1952 NATIONAL HOMEFURNISHINGS SHOW

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Lexington Avenue — 46-47 Stre

Daily thru Sept. 2

Christian Science Monitor, Eastern Edition, 6 Sept 1951 page 13, col 1 of Old World courtesy in the arcade are three former Hussars who see to it that one doesn't whistle or run, wheel a perambulator or a bicycle,

No visitor from abroad who wishes to sense the atmosphere of Victorian London should miss this 19th-century backwater.

From the Bookshelf

Beyond Earth's Bounds a New Horizon

By R. C. C.

Rockets, Missiles, and Space Travel, by Willy Ley. (New York: Viking Press. 436 pp. $5.95.)

"In the early afternoon hours of February 24, 1949, Man took his first step into space."

For rocketeer and author Willy Ley that was the significance of the historic flight of a Wac-Corporal rocket which, assisted by a powerful V-2, shot 250 miles into airless space above the desert sands of New Mexico. It expresses his faith in the engineering possibility and future practicality of space rockets—a faith that forms the central theme of his book.

Admittedly, this is a subject of speculation and easy prey for overenthusiastic misinterpretation, but Mr. Ley has presented his material with a historical perspective and scholarly authority that treat space travel as a logical future development in the centuries-old chain of rocket research.

From early Chinese "fire arrows" to the modern experimental rocket plane he has traced in detail the development of these fiery-tailed missiles. It is an adventurous story, seasoned with bitter disappointments and spectacular success and colored with personalities often as explosive as the materials with which they worked.

* * *

The rocket started as a military weapon, signal, and fireworks display, and early development was along such lines. But as the evolving idea of other worlds and travel to them began to assert its claim upon the imagination, rocket research became inspired by a vision.

As the story unfolds many familiar figures of history appear, and there is the comfortable flavor of bygone days securely salted away in the historian's annals. But the tale runs on and smoothly merges into the present until one suddenly realizes that these are events and people known within his own lifetime and the author himself has entered the story.

If the reader is an Englishman he can hear the roar of Nazi "buzz bombs" and the crash of V-2 rockets. If he is a fighter pilot he can feel the heavy fist of jet-propelled acceleration against his spine. If he is a physicist, he can look across his desk and wonder at the new data being gathered from miles on high.

The story has taken on a new meaning. In one sense it has become disquieting, but in another it is infused with fresh challenge and crowned with achievement.

The author fled from Nazi Germany to the sanctuary of New York before World War II. But with the aid of captured reports and renewal of old acquaintances he has managed to piece together a fairly detailed account of the work in German rocketry during the dark years—work that can be classed as no less than brilliant.

When they capitulated German engineers not only had produced the V-2 and the flying bombs but they had progressed far toward a trans-Atlantic rocket that would have put New York City within artillery range of Berlin. Jet and rocket planes were planned and, in some cases, produced and in operation.

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Mr. Ley tells, for example, of a detailed proposal to build a rocket plane that could circle the earth in less than four hours, dropping bombs at points along the way. The end of World War II prevented further German work on such a project, but he reports a top-level conference in Moscow which seized upon it eagerly.

In articles and speeches the remark is often made that the technology of a free world, uninhibited by ideological and police restrictions, can outmaneuver and outproduce that of the totalitarians. There is much veracity in this statement. But, lest they fall into complacency, those who make it will do well to mark the achievements of Hitler's rocketeers and remember that there is a brute force of intellect that can accomplish what seem engineering miracles even within the framework of a mental strait jacket.

However, there is more to rockets than their war potential, and Mr. Ley has flung a challenge that rings with promise to young engineers. Is space travel possible? It is a studied guess, but he thinks that it is. And as for getting rockets outside the atmosphere, that, he points out, already has been done.

16 June 1968 page 15 Hartford Courant, Hartford Conn

Beyond the Earth

ROCKETS, MISSILES, AND MEN IN SPACE — By Willy Ley, Viking Press; $10.95.

Reviewed by

GEORGE W. EARLEY

Among those of us whose knowledge of rocketry predates Sputnik and Co., Willy Ley is recognized as the Dean of Rocket Historians. Ley's credentials are not merely academic, though his scholarly knowledge of the field is indeed encyclopedic, but go back to the beginnings of serious rocketry when, in 1927, he was one of the founders of the VFR — the German Rocket Society. (With such other pioneers as Hermann Oberth and Klaus Riedel, Ley labored to build what the VFR hoped would be the world's first successful liquid-fueled rocket. That the American inventor Dr. [illegible] such a rocket over a year before the VFR was formed was not learned until several years later; Goddard, an intensely secretive man, did not publish his results until the early 1930s.)

After leaving Germany in 1935, Ley turned to writing and in 1944 brought out a slender volume titled simply "Rockets." Half history and half speculation, it told of the past of rocketry (which goes back centuries before the VFR and other early groups), of experiments and experimenters and looked into a future when, with rocket power, man would leave the Earth to explore the solar system (and, perhaps, beyond!). For fans of Buck Rogers and Flash Gordon, whose adventures stolid adults scorned as "childish fantasy," "Rockets" was heady wine indeed.

In the years that followed, V2 rockets fell on London and both East and West began the rocket research and experimentation that was to put both on the road to the moon and the planets. And as that research went on, Willy Ley followed it, continously revising, updating and expanding his history . . . "Rockpanding his history . . . "Rockets and Space Travel" became "Rockets, Missiles and Space Travel" and now, 24 years after its initial appearance, has been expanded again to include the history of the space men.

With nearly 50 per cent new material, dozens of photographs and almost a hundred sketches, the book is what its jacket proclaims it to be: "A definitive account of the history of space flight — from its origins to the [illegible] Willy Ley has done his usual superlative job in putting it all together in a clear, concise and eminently readable fashion.

If you can buy only one book to learn not only the past but the future of space flight, this is the one to buy — accept no substitutes.

Willy Ley, author of "Rockets, Missiles and Men in Space," published by Viking Press.

Early Monarches

EPITAPH FOR KINGS — By Sanche de Gramont; G. P. Putnam's Sons; $6.95; 480 pp.

Reviewed by

ROBERT E. SMITH

For anyone who learned about the lives and loves of French royalty — Louis XIV to Louis XVI —from the romantic novels of Alexandre Dumas, this "Epitaph for Kings," as the author calls it, performs a fascinating autopsy on French society and its leaders during the interval spanned by the lives of these three grand monarchs—1638 to 1793.

For the historian, and the historically minded, this is one of the most richly detailed periods in the turmoil of European living, and dying, as so many did in that era, victims of the nobility's unconcern.

It was incredible poverty that brought on the French Revolution. If history repeats itself, as they say it does — this book should be food for thought— there are others besides Kings for whom there are epitaphs.

Adventure Tale

CALL IT RHODESIA—By W. A. Ballinger; G. P. Putnam's Sons; $6.95; 381pp.

Reviewed by

JAMES DEVANEY

This swashbuckling novel traces the history of Rhodesia from its settlement in the late 1800s until its unilateral declaration of independence in 1965.

The story is told through a series of flashbacks, primarily concerned with the lives of Alexander Strang and his family, the epitome of the settlers of the raw country who stayed and

Study for Thoughtful Voter

THE NEW POLITICS — THE EXPANDING TECHNOLOGY OF POLITICAL MANIPULATION — By James M. Perry;

money. Men of great wealth thus have a big head start in vying for office. But these techniques win elections, and it

the total votes cast, for victory over three opponents.

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1st Satellite Cycle Will Reveal Much

(Fourth of a Series)

What Good Are Satellites?

By Willy Ley

After the first artificial satellite has run its life cycle of several hundred or several thousand hours in space a great many different scientists will have learned a great many different things.

They will know more about cosmic rays and about cosmic dust.

They will know more about the earth's magnetic field, and the density of the atmosphere 200 miles up.

They will have learned just what the sun's rays, completely unshielded by any atmosphere, will do to a man-made structure.

They will know the precise thickness and mass of the equatorial bulge of the earth. They will even have established the precise distance between continents.

Present-day measurements of the distance from, say, Newfoundland to Ireland are likely to be off by a thousand feet or so because one cannot triangulate across water. But with an object of known speed and course overhead, such a distance can be established with great precision.

This might be of great scientific interest and it certainly does not sound warlike but what good does it do for the average man? There are several answers.

Looking
with Luke

Facts Worth Knowing

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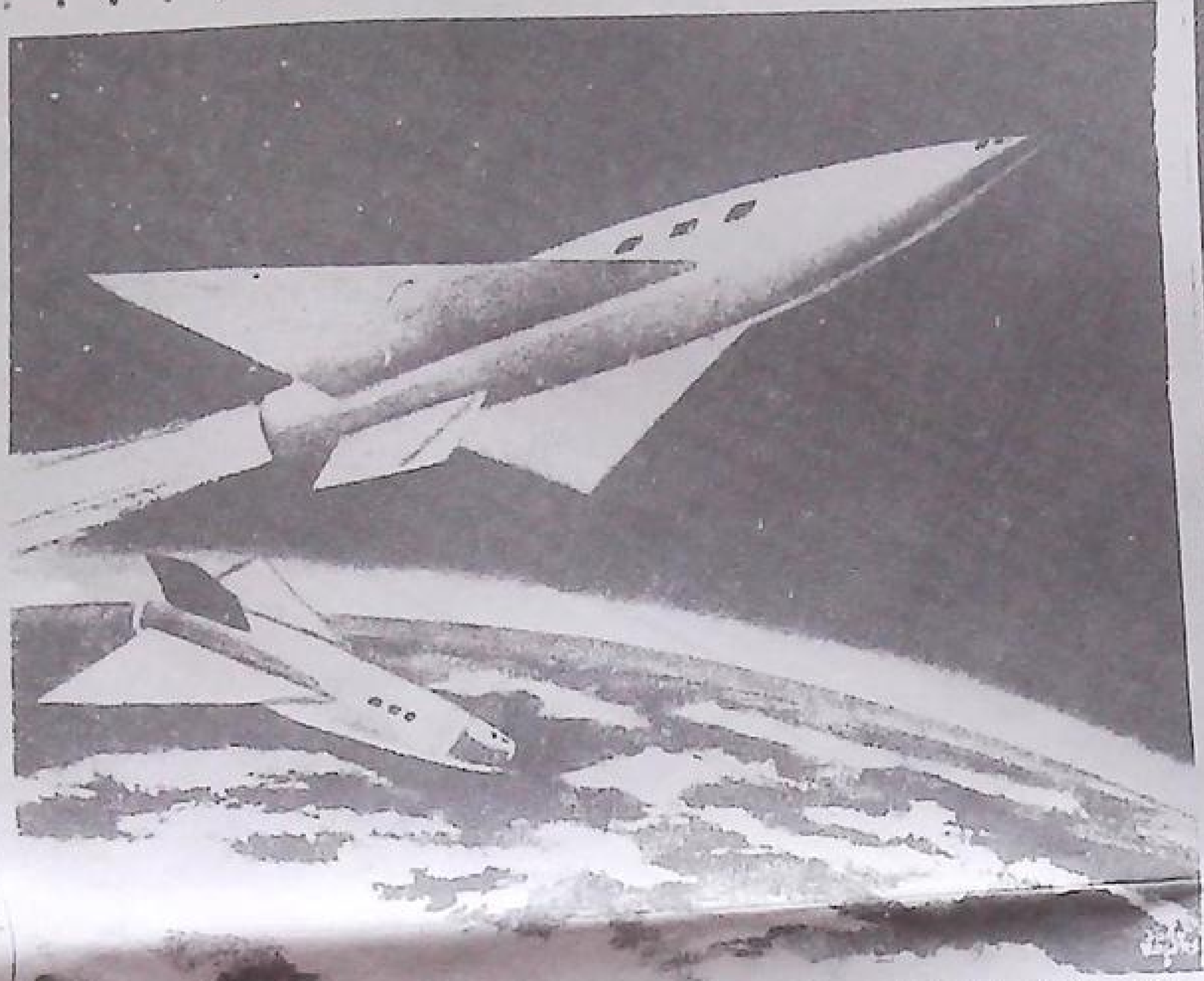

Studies obtained from America's artificial satellite are expected to contribute to the construction of aircraft which will span the continent in 90 minutes. This drawing shows a transcontinental plane being brought to its required altitude by a manned booster plane, which later returns to the takeoff field.

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way you feel the bumps in the road, the vibrations of the engine, the air stream passing by. But you cannot feel speed directly. In an airplane most of the sensations misunderstood for "speed" disappear. We cannot even feel speed. But we can feel changes in speed: acceleration.

[illegible] ven though no man has ever [illegible] ride in a V-2 or Viking [illegible] know that he could [illegible] eration of these rockets if he did. It so happens that accelerations can be imitated in large centrifuges and volunteers had themselves tested. From these tests we know that any person in good health can stand much higher accelerations and for a longer time than will ever actually occur in a rocket ship.

What we cannot test on the ground, and therefore do not know well is how people will react against the opposite to acceleration, namely complete weightlessness. The body is not likely to revolt, but the psychological effects are simply not known yet.

Medical men who have studied these problems have come to opposite conclusions. It may be that this is a way of separating optimists from pessimists in the medical profession, but as far as the reactions of the actual flyer are concerned we'll simply have to wait. If we [illegible] too diffic [illegible] people, the [illegible] able to do [illegible] can be almos [illegible]

TUESDAY—

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FLY THE WORLD'S FINEST OVERSEAS AIRLINERS
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